THE ARCHITECT & BUILDING NEWS

25 NOVEMBER 1954 · VOL. 206 · NO. 22 · ONE SHILLING WEEKLY

- GRAYS STATION, BRITISH RAILWAYS
- LOCKS

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John Goodger looks far ahead

"If I'm to spend my life supplying windows" reasons John Goodger, Williams & Williams area manager of the Eastern Counties "I'd better know all about them". So, acquiring a derelict stable, he puts in—with his own hands—metal windows, door frames and Aluminex patent glazing and, in doing so, makes himself a lovely home. "If I'm to give proper service in this vast area" he goes on "I must get around faster." His speedometer appears permanently fixed at 60 m.p.h. In short, here's a young man whose life is his job, who thinks further than the day after tomorrow, and who has his own service team of draughtsmen, estimators and fixers as a result. A useful chap to have at your call!

*MR. J. E. F. GOODGER, WILLIAMS & WILLIAMS LTD.
Eaton House, High Street, Newmarket (2277)

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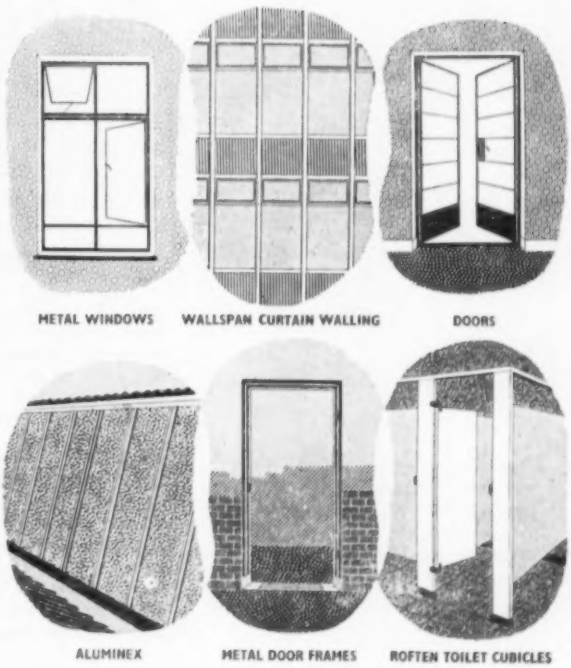
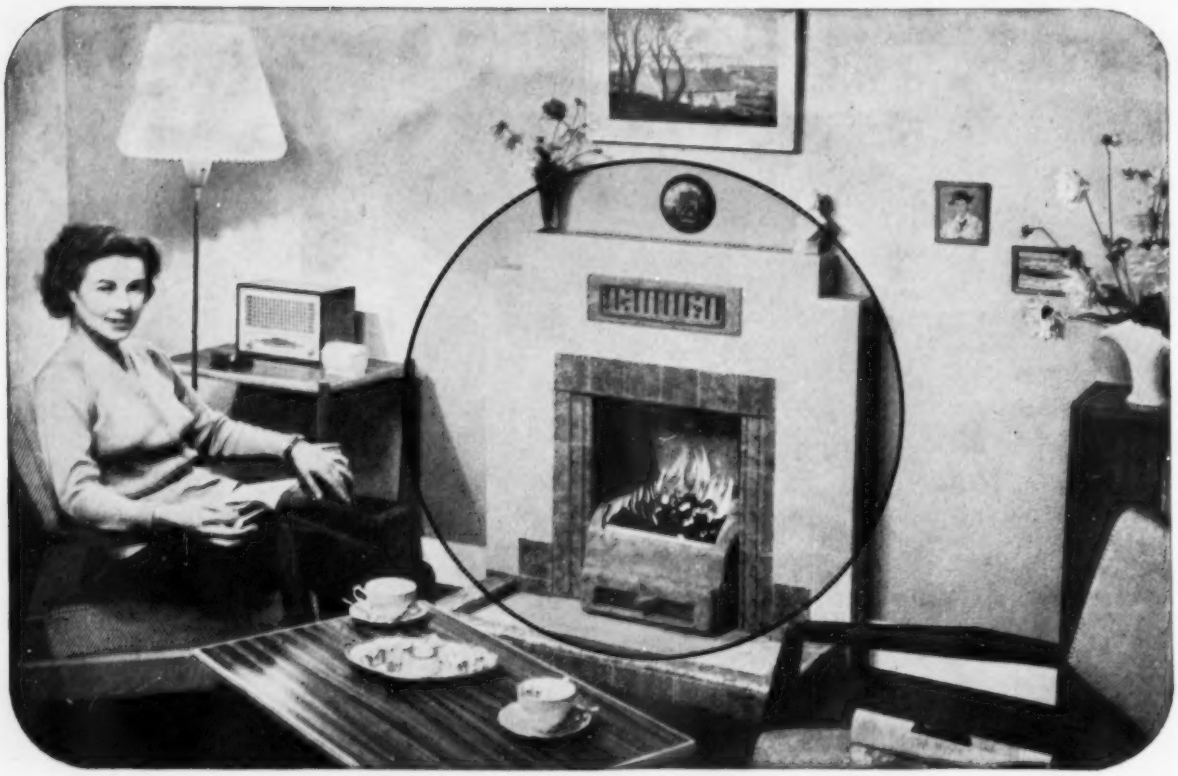


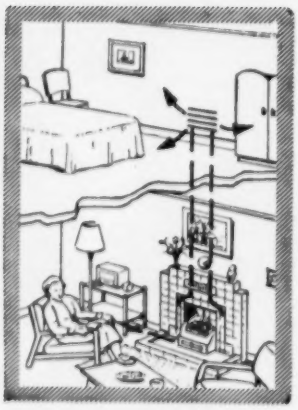
METAL WINDOWS **WILLIAMS & WILLIAMS** *Member of the Metal Windows Association*

A



Controlled Comfort

by Convection



These fires fulfil the requirements of British Standard Specifications for Solid Fuel Fires and are included in the list of Approved Appliances recommended to Local Authorities.

Heating by convection—which really means "warmed air"—is the modern, economical and satisfactory way of making the most of Solid Fuel and the best of the appliances. Control of the burning rate of the fire and of the flow of warmed air is simple and effective.

SOFONO *Convector* FIRE

The Sofono Convector Fire is similar in appearance to the traditional type open fire. It is a continuous-burning, self-setting unit with the convector chamber formed by a cast iron jacket round the back and sides of the fire. The overall efficiency of this appliance is more than twice that obtained by a normal open fire. This efficiency is increased to 55-60% when a back boiler is fitted.

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Two types of the Camelon Convector are available—the Under and Over Floor Models. Both give excellent radiant heat and distribute convection heat by means of ducts. They are designed to burn continuously at a chosen rate on most types of solid fuel. Smoke emission is reduced by over 50% and in the use of the underfloor model, room draughts are considerably reduced.

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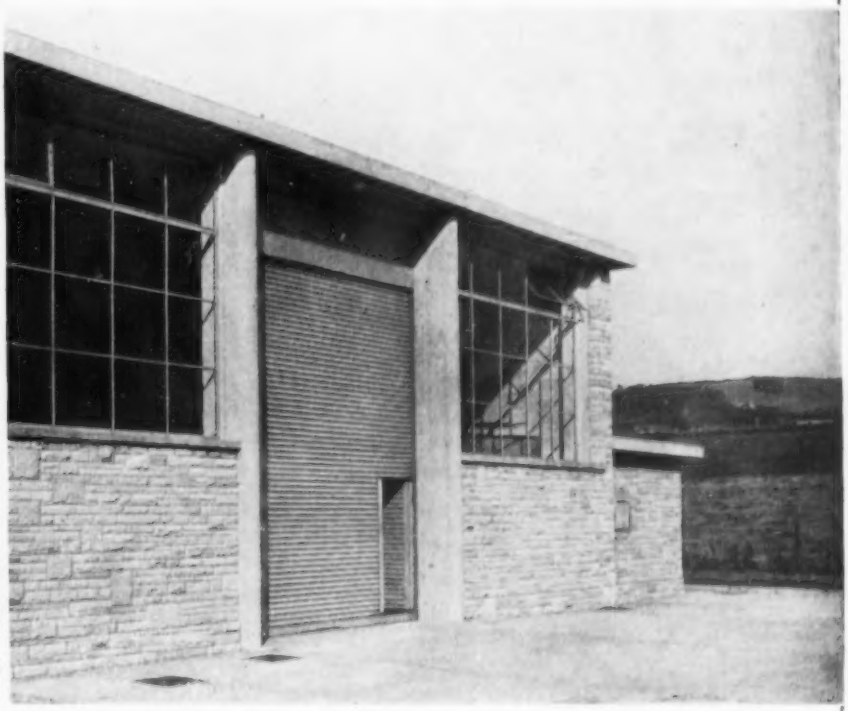
for a place in the sun . . . . .

and in the wind and rain, a Kinnear rolling steel shutter is the wisest choice when doorways are planned, built or altered. Hand or electrically operated, perhaps remotely controlled, they conserve space when up or down and give many years of trouble free service.



MAX TETLOW, B.A., A.R.I.B.A.

Kinnear's fifty years experience and the care that is taken over every installation, ensures that when it comes to saving ways in doorways, you should specify rolling steel shutters by

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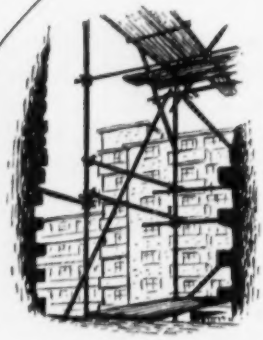
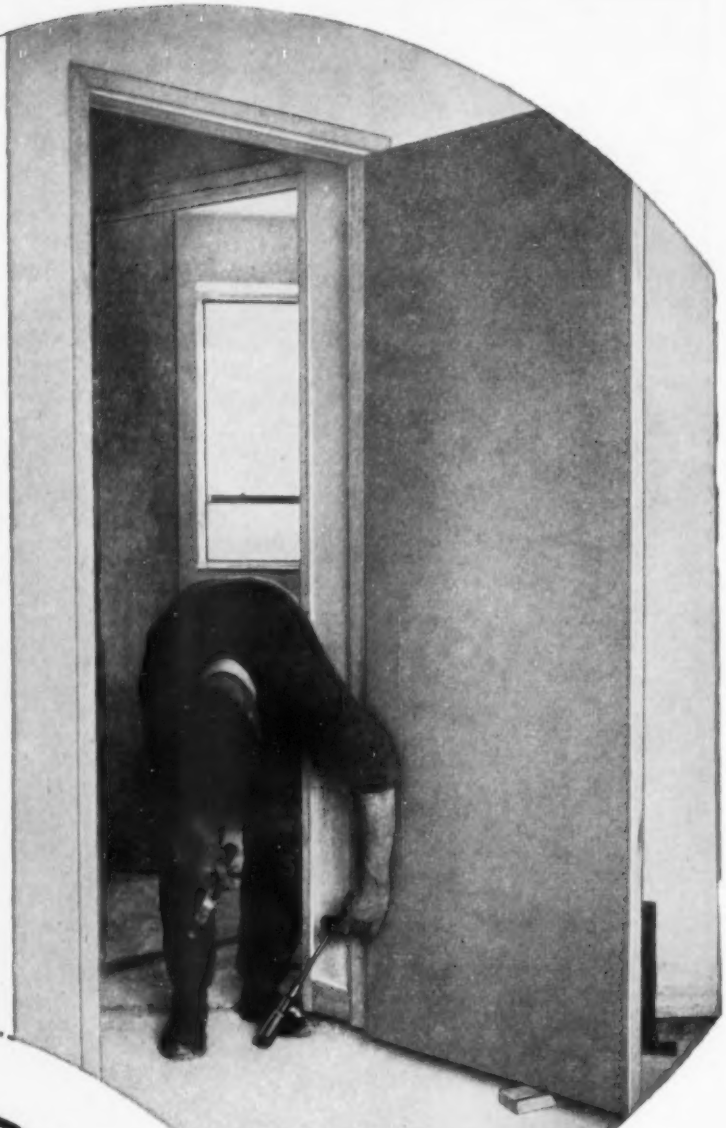
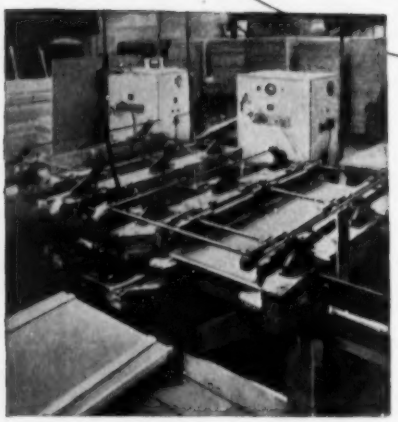


To demonstrate the toughness, strength and durability of the stressed skin principle of construction, this Gliksten door was heavily slammed on the testing machine. After 41,455 slams, there were still no signs of deterioration! Gliksten Flush Doors—for exterior and interior use—can be delivered already fitted with lock or latch.



For minimum maintenance

FLUSH DOORS



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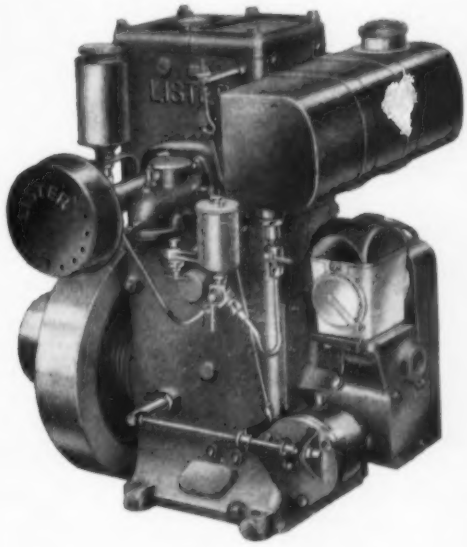

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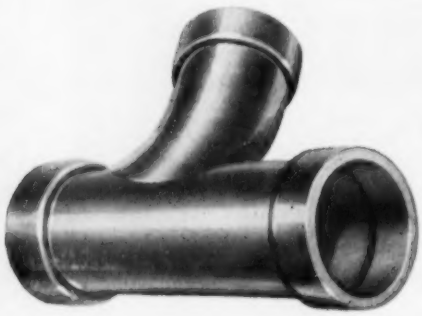

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B F/5

PATENT GLAZING

NEW B.O.A.C. HEADQUARTERS

Part of the roof of the B.O.A.C. Headquarters at London Airport. The total area of glazing is approximately 280,000 square feet.

The roof of the new B.O.A.C. Headquarters, London Airport, is a fine example of the effective use of patent glazing in the design and construction of the biggest modern buildings.

The completed work is also an outstanding instance of the advantages to architects and contractors of using the services of firms who are members of the Patent Glazing Conference. Sixty tons of aluminium were needed for the glazing for the hangar roof.

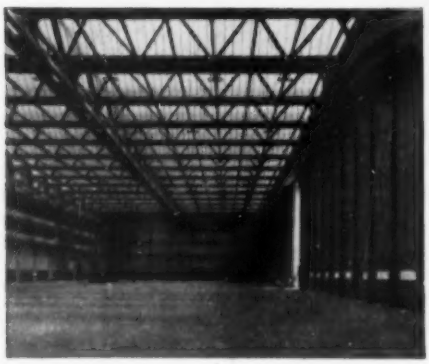
When the contract was placed supplies of aluminium to all patent glazing manufacturers were in short supply because of the demands of aircraft manufacturers engaged on the defence programme. This difficulty - and others which such a large-scale piece of construction presents - were overcome by two members of the Patent Glazing Conference collaborating on the contract and working closely togther to make the erection of the roof a combined operation.

Architect and engineer: Sir Owen Williams and Partners.
Main contractors: Messrs. W. & C. French Ltd.

SPECIFICATIONS

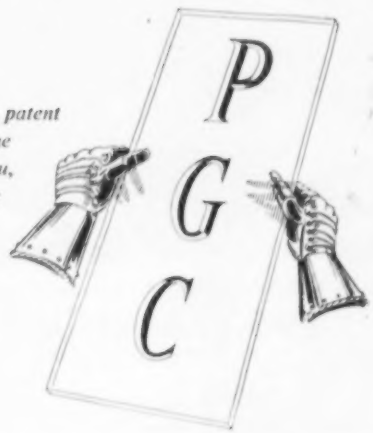
LONDON AIRPORT

A close-up view showing the glazing and supporting structure from underneath.

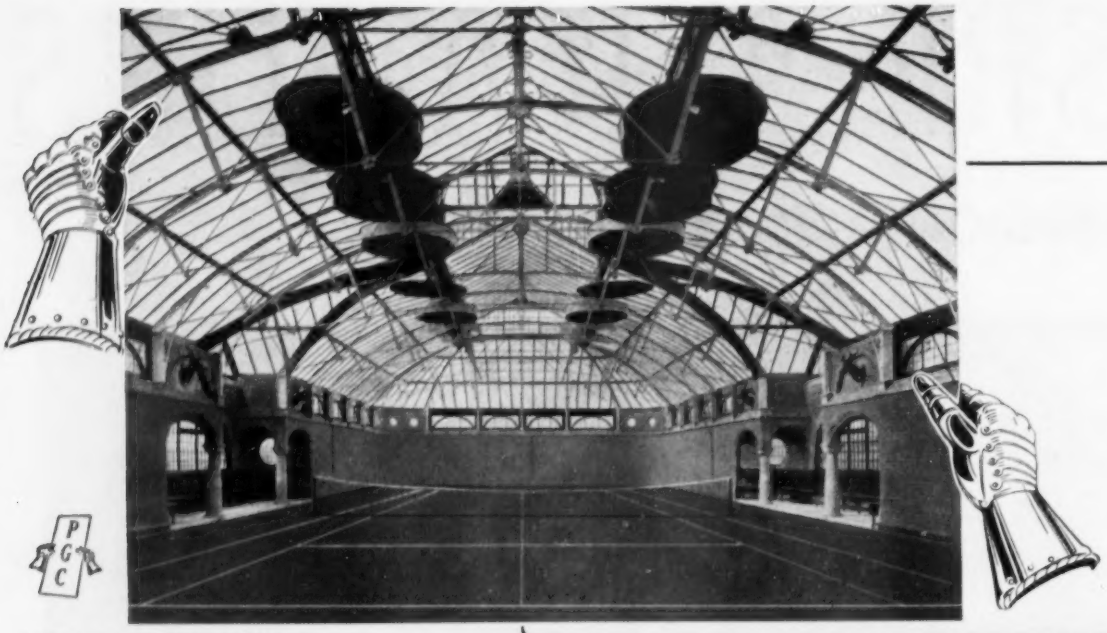


A general view of the interior of one of the hangars.

For all facts about patent glazing, write to the Information Bureau, the Patent Glazing Conference, Burwood House, Caxton Street, London, S.W.1.



ISSUED BY THE PATENT GLAZING CONFERENCE



"ECLIPSE"
Patent Glazing
to covered Tennis Court for
Sir Alfred Hickman (Bart), WIGHTWICK.

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Architect : **Frederick Gibberd** F.R.I.B.A., M.T.P.I. *Consulting Engineers :* **Ewbank & Partners Ltd.** *Contractors :* **Taylor Woodrow Construction Ltd.**

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The sterling qualities of "POLY-FLOR" has produced foreign currency for years past, and although only very recently made available to the Home market by virtue of increased production, already leading Architects and Builders are recommending its use for projects in the United Kingdom. Produced in 16 beautiful marbled colours. The colours permeate the whole thickness of the material and cannot wear off. Under constant use day in and day out the appearance of "POLY-FLOR" can be maintained merely with a wipe or a polish.

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Building Research Establishment reports on its laying properties: "..... after 6 months there was no sign of buckling and there were no measurable changes in either length or width".

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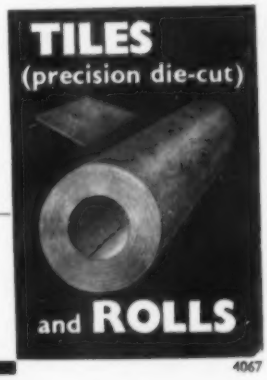

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Architect: FRANK SCARLETT, B.A., F.R.I.B.A.

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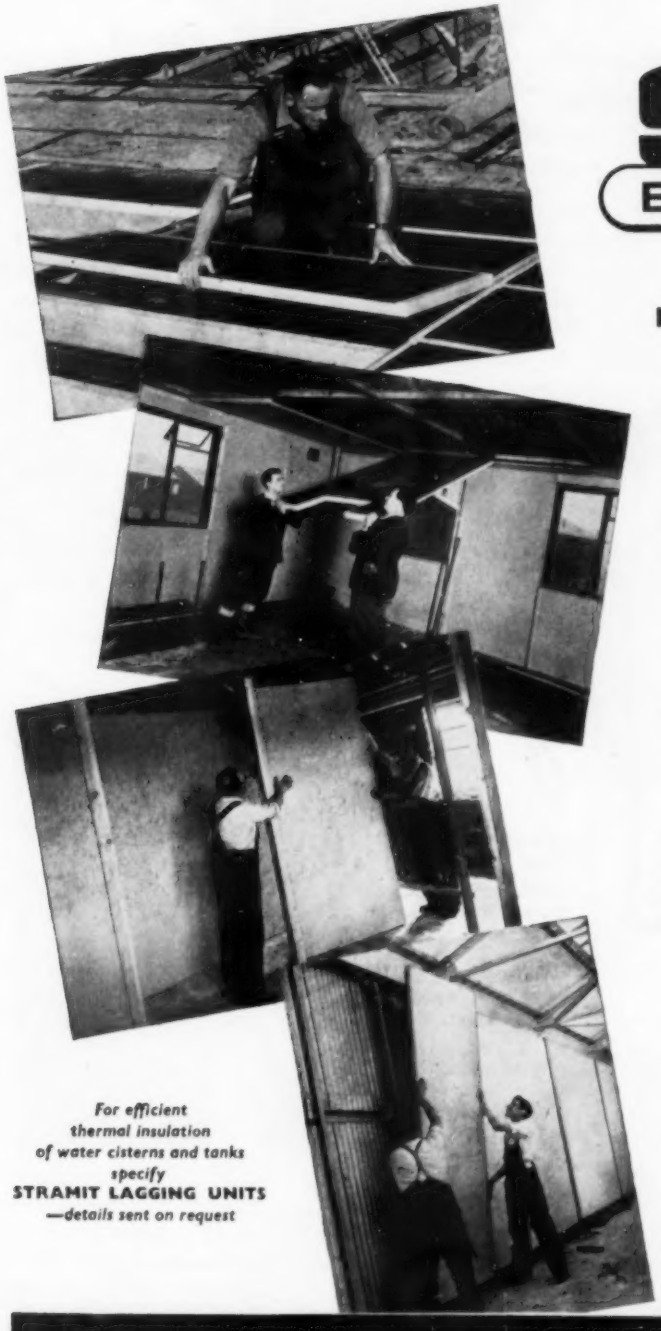
8 reasons why more and more Architects are insisting on



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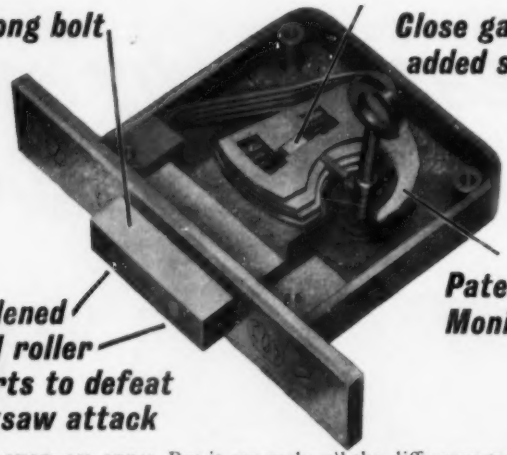
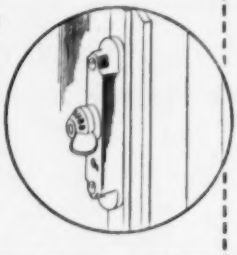

Extra strong bolt
Close gating for added security
Hardened steel roller inserts to defeat hacksaw attack
Patent Monitor lever

ANOTHER LITTLE ITEM

A recent example of our policy which may be useful to you is a simple lock for securing metal-framed windows. Please ask our representative to call and give you details of these and other Chubb security devices.



JUST AN ITEM. But it can make all the difference to your client—between security, for instance, and serious loss. Most people come to us in the end—it may be too late — for a lock they can rely on. Because Chubb locks are the outcome of a policy of continuous research to ensure the utmost security. So if you are tempted to make small economies by using weak, anonymous locks on back and front doors, please think again, and think of Chubb.

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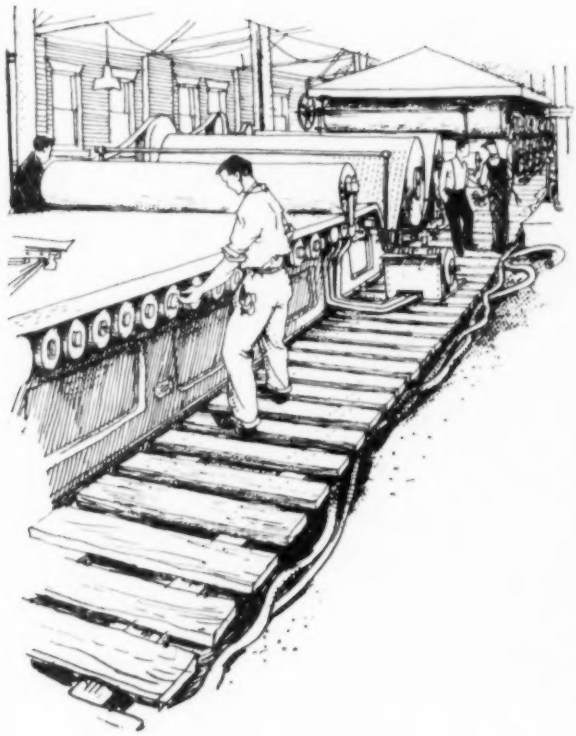
"the place is full of steam...



. . . "The place is full of steam all day"—they told us at Cray Valley Paper Mills—"and dries out again at night. We can't have water dripping off the ceiling on to the machines." The ceiling, in other words, had to stand unlimited absorption and drying-out. It also had to be fire-proof, and to last indefinitely. A clear case for "Asbestolux", in fact. Time, humidity, heat, cold, chemicals, fungi, none of them can affect "Asbestolux", a silica-bonded pure asbestos board, which is made without cement. As for fire-resistance, a recent public test showed "Asbestolux" sheet standing up to a 1800°F flame for 13 days, 10 hours a day, without there being even the first sign of structural failure.

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CAPE

The Glass Age Development Committee

A committee of architects and engineers, convened by Pilkington Brothers Limited, is making proposals for the development of the Soho Area, and a preliminary survey of the project has already been published.

This Glass Age Development Committee consists of:

G. A. Jellicoe, F.R.I.B.A., Edward D. Mills, F.R.I.B.A., Ove Arup & Partners.

THE SOHO PROJECT—2

The three main development proposals are:

i To create a great weather-protected and air-conditioned shopping and office precinct, free of traffic but accessible for goods, private cars, helicopters, and existing public communications.

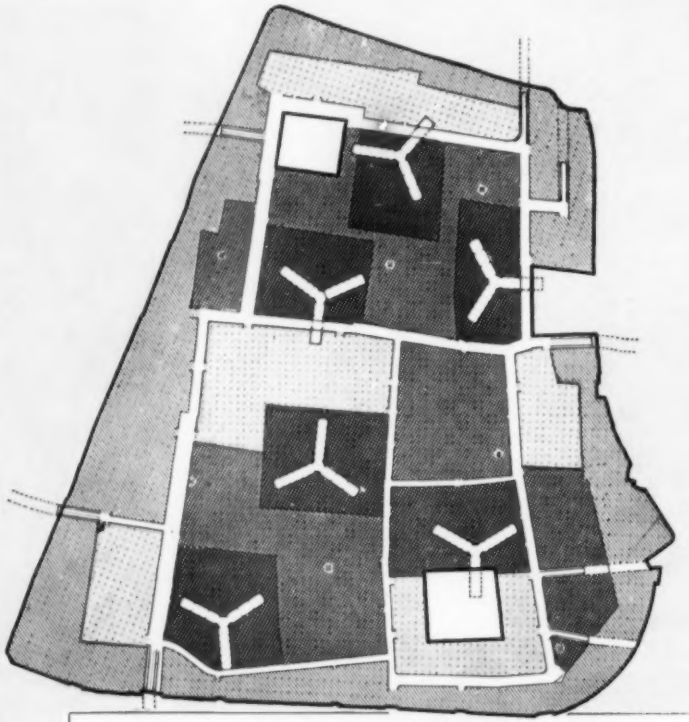
ii To create six 24-storey blocks of good-class residential flats.

iii To create a spacious open-air entertainment centre, as a supplement to the existing indoor entertainment.

All the proposals made for this project are practical possibilities. The techniques and materials to execute them exist now. Some details of their application are given on these two pages—others will be published in further reports. A preliminary survey has already been published.

THE SUB-BASEMENT

Below ground floor level there are two basements: the upper for goods traffic and storage; the sub-basement solely for private cars. The two types of traffic are thus separated, and the two basements are approached by tunnels underneath the surrounding traffic roads. The system adopted for the tunnel approaches is normally to stop up the end of an existing road, which works easily enough on the existing gridiron system of roads.



KEY TO SUB-BASEMENT PLAN

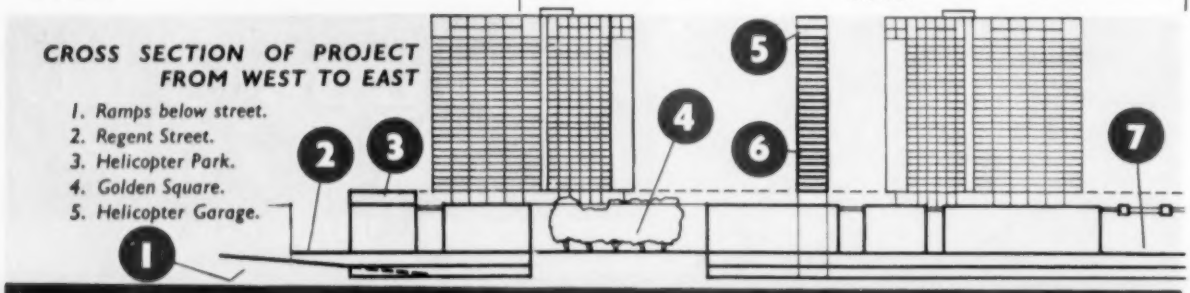
- Car parking for towers.
- Car parking for shops and theatres.
- Public Car Parking.
- Warehouses.
- Lift to street on Garden level

Whole area excavated except below squares. Mushroom columns—spaced at 25' 0" centres. Ramps shown are to street level.

Ramp to upper basement from street not shown. White—internal ring roads. Towers not coloured—entrance halls and lifts at this level.

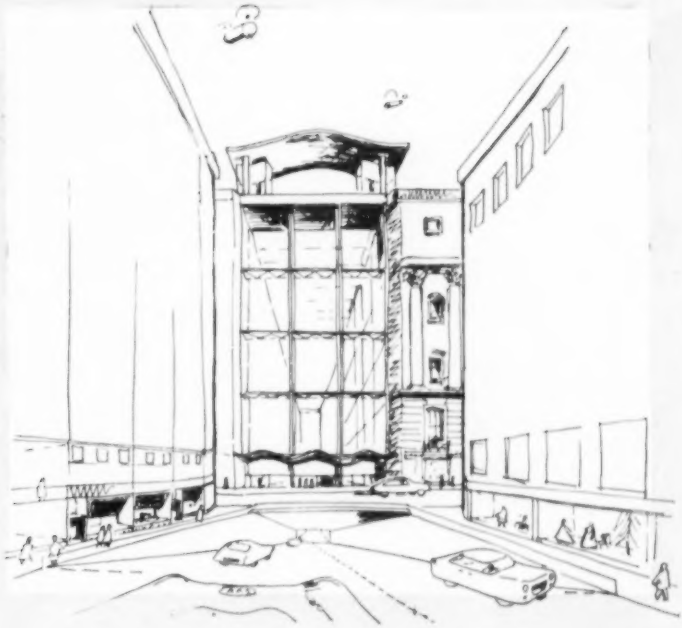
CROSS SECTION OF PROJECT FROM WEST TO EAST

1. Ramps below street.
2. Regent Street.
3. Helicopter Park.
4. Golden Square.
5. Helicopter Garage.

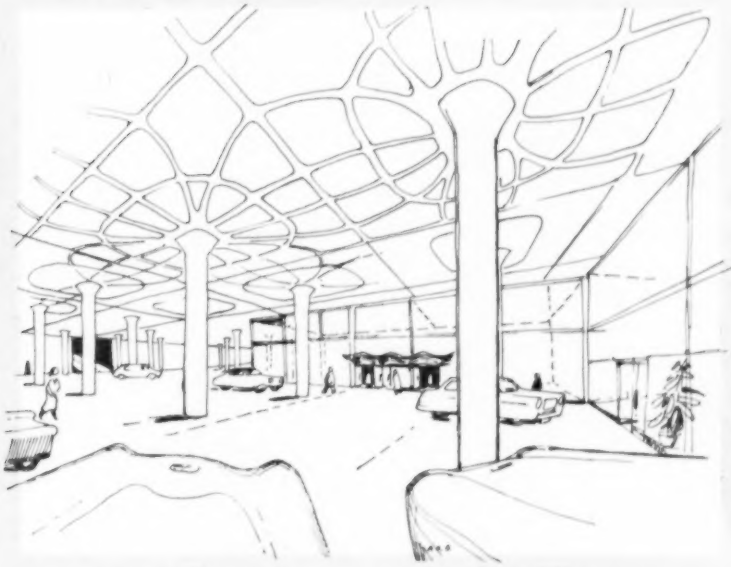


PILKINGTON BROTHERS

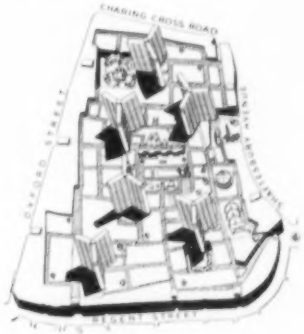
Right: View across Regent Street, showing ramp for cars underneath, with entrance to the pedestrian air-conditioned precinct above. The front is in double glazing, and there is a glass lift approach to the helicopter landing stages.

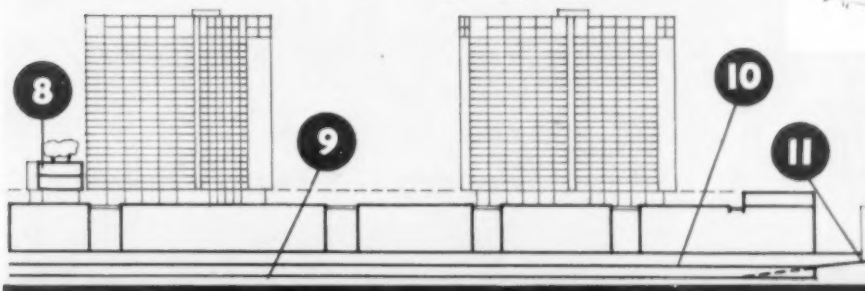


Below: The interior of the sub-basement, showing the private car approach to the entrance hall of one of the tall blocks of flats. The reinforced concrete pattern of the ceiling could be a variation of the mushroom form of construction as developed by Nervi.



General view of project.





6. *Tower of flats.*
7. *Covered Market.*
8. *View Terrace.*
9. *Lower Basement—Car Parking.*
10. *Upper Basement, shops and warehouses.*
11. *Charing Cross Road.*

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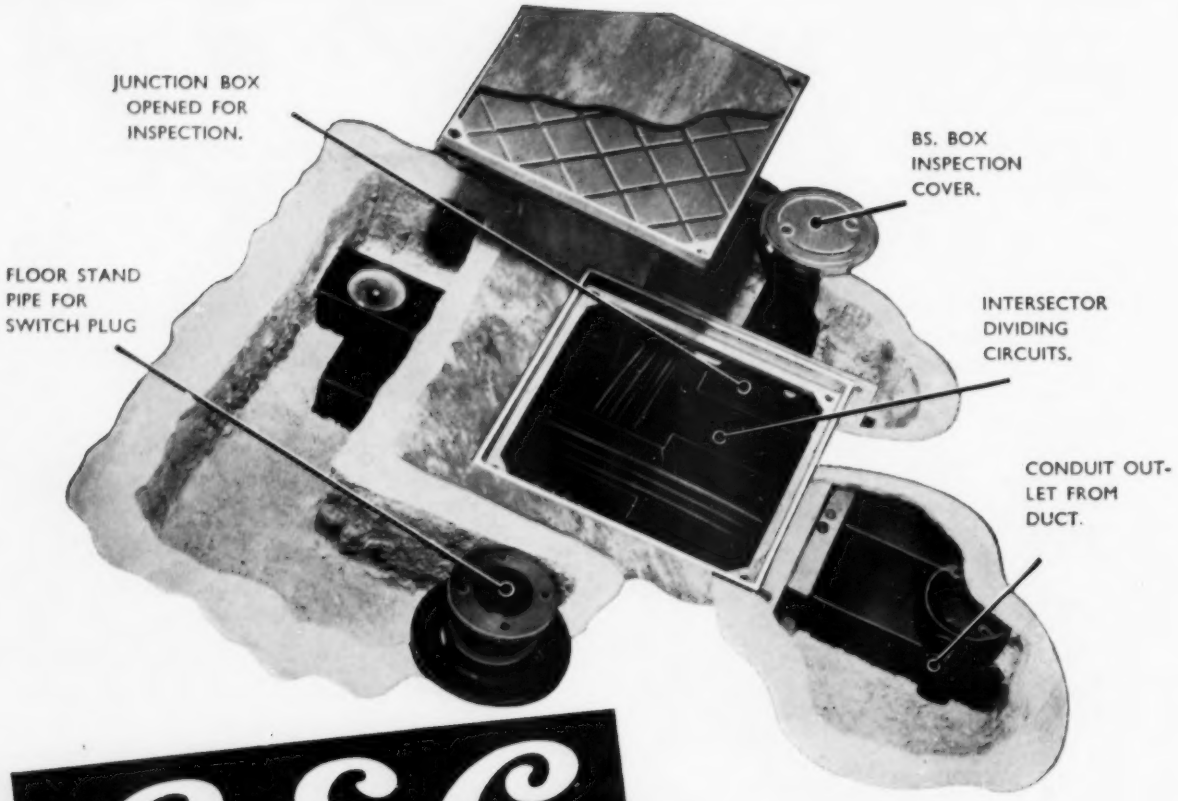
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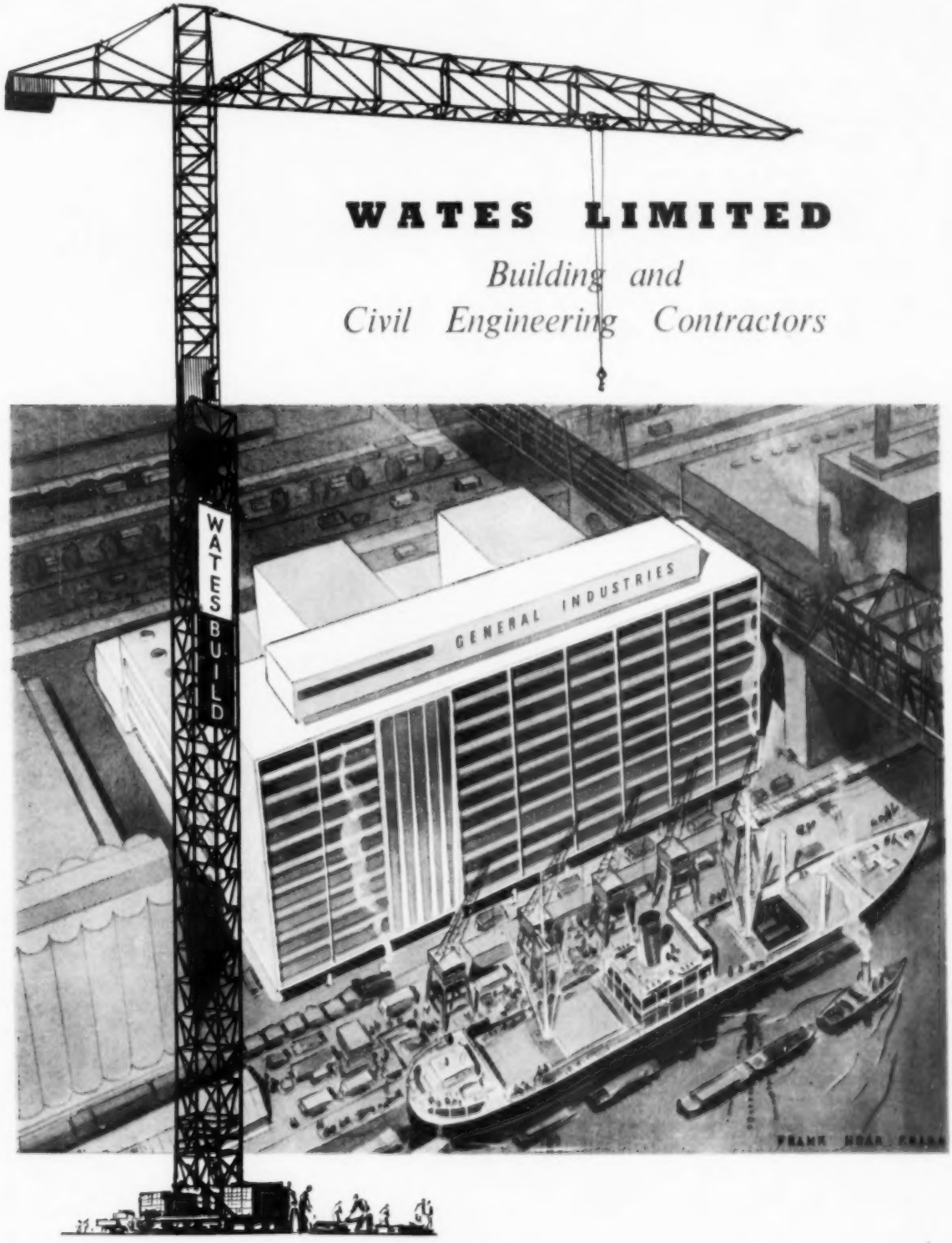

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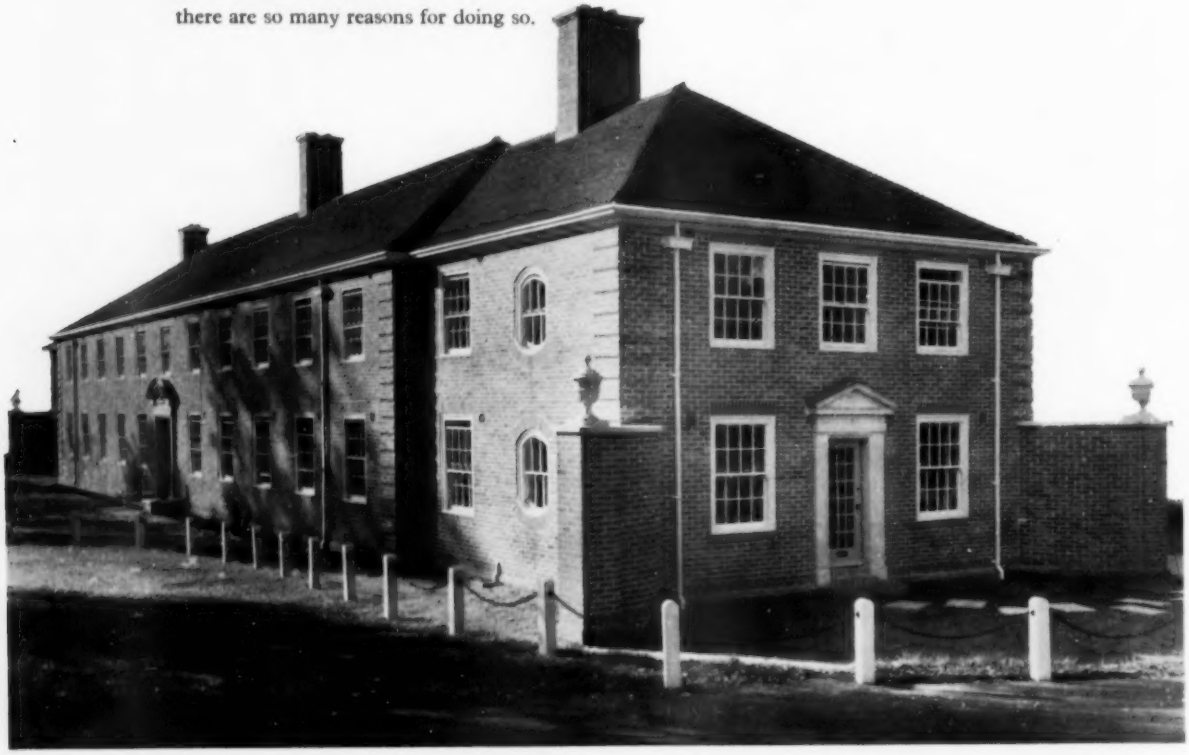

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Vol. 206 No. 22

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25 November 1954

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BUILDERS' CLERKS

IT is probable that the building industry and most of those associated with it have never made any attempt to gauge the extent of the dependence it places on builders' clerks. They are one of the parts of the industry whose songs are usually unsung but who play a vitally important part with little or no recognition. To most of the industry they seem to be always there and quietly producing the required answers. Even so well known an employer as Mr. Norman Wates remarked at the Annual Dinner—"He is the back-room boy of the building industry and I don't think his importance is sufficiently recognized. As a former builders' clerk I am horrified by the current complexity of their work." Indeed they are truly the back-room boys of building. They need to know the how, why, when and, above all, where from and the cost of everything. Their duties are legion, and by various ways, often said to be quite incomprehensible, they contrive to keep the wheels turning and give results in all fields which not only seem to find reasonable acceptance, subject to continual grumbles, to their employers but also to the workmen. To the workmen they are a source of almost everything from wages and bonuses to donkey coats, packets of screws and supplies of every type in almost precisely required quantities.

How is it that builders' clerks, being so vitally important, are so often paid relatively so little for so much complexity? To most of the industry and especially to those who are not on the contracting side, such as architects, the builders' clerk is either just a mystery or even non-existent. Associated with builders' clerks are such questions as where do they come from, how do they acquire the vast knowledge they possess and also are they trained in the best way to keep themselves up to date with the constant changes and developments in the industry.

Should they be better paid? No doubt they would reply "Yes," while many employers would reply "No"; one point that seems fairly certain is that the pay has not, in many instances, increased in direct relationship to the increase in the number and difficulties of their duties. On the whole they are probably not so placed that they can press their case for increases in salaries as well as the operatives in the industry. Builders' clerks seem to develop faculties which make them seem fully willing to do their jobs and to emit a certain efficiency on which their employers depend, although it is very probable that few employers realize the extent of their dependence on their office staff.

Are they as knowledgeable and as up to date as they should be? This is probably a very questionable matter. Many seem to operate with a somewhat slow but extremely systematic approach which tends to cause them to avoid deflections from their regular habits and ways of doing their work, whether these be the ways of building or merely the brand of tobacco they smoke. In many instances they seem to accept changes gradually but only under the considerable pressure of the times; it may be that it is their background or attitude which contributes to the relatively slow acceptance of changes in management and operational methods compared with their counterparts in some other industries. There seems often to be a feeling that they like doing things in just the way they always have done them.

The educational background of many builders' clerks may not have been, especially in the past, as good as it should have been and this may well be because the level of pay rates has not been attractive. In recent years, however, there seem to have been many improvements, possibly due to the greater development of junior and senior technical schools and above all to increased willingness to attend evening classes. It seems certain, however, that as building, and especially its management side, increases in complexity, better and better education

of the industry's staff is essential if the clerks are to keep abreast of the growing duties which they are expected to perform. Basically better education before entry into the industry proper is, however, not likely to prove sufficient and in consequence it is essential that the builders' clerk has both the time and inclination, as well as the money compensation, to encourage him to devote himself to further reading and study to keep his knowledge abreast of all developments.

To keep abreast of developments when much of the day is spent in offices involves the reading and digesting of documents out of office hours. What are these documents to be? They must vary greatly according to the precise duties and the prospects of the individual. It seems that subjects such as quantity surveying, estimating and accounting do not, in fact, change greatly, thus concentration needs to be placed on the books and leaflets which deal with the ways of building, new materials, the troubles and difficulties of building and above all on the organization of building. Much of the reading to keep abreast of these developments is available in the publications which emanate from the Building Research Station and might well take the form of the Bulletins and Special Reports in the National Building Studies Series, supplemented by the M.o.W. leaflets and B.S. Codes of Practice and B.S.s themselves.

The builders' clerk is of such importance to the smooth running of the industry that every step should be taken to see that conditions are provided which will attract the types of men with the right background and a willingness to seek new ways. This means that he must not only be well paid but that there should be a full recognition of the importance he can play to achieve the desired improvements in productivity which the industry needs so badly.

EVENTS AND COMMENTS

ENAMEL FOR SHEATHING—II

There is no livelier person in the building materials industry than Mr. E. G. Elton, managing director of Plyglass, Limited. He is never in less than two places at once, he bubbles with enthusiasm and energy and is always full of new ideas. His letter printed on another page is typical. Mr. Elton suggests that porcelain enamelled metal is not the answer to the cladder's prayer. I was most careful in my original paragraph to avoid making any such claim. My point was that on the whole British architects were not as adventurous as American. Again I was careful, being a British architect, not to say that I thought that it was necessarily either a good or a bad thing. Mr. Elton suggests by implication that the climate here is more rigorous than in America, but surely this is not so? Naturally, although he does not actually say so, Mr. Elton would like architects to use his cladding materials, rather than porcelain enamelled metal sheets. I, however, remain interested in all of them.

EXTERNAL CERAMICS

Coloured tiles and faience have also recently come into the news again for the external cladding of buildings. Mr. A. B. Read, R.D.I., Director of Design for the Carter group of companies, spoke of the many uses of such materials at a meeting of the Manchester Branch of the D.I.A. a week or so ago. The nineteenth century technical wonders of such things as the interior of the National Liberal Club have given way to a better design sense and better colour. Architects now use tiles and faience inside and out to give permanent colour and pattern where needed. The new gaily patterned and coloured tiles are produced quite simply by screen printing. Mr. Read hoped that we should soon see the end of buff, oatmeal coloured and mott'ed tiles and that they would be replaced by coloured patterns of a high and exciting design standard. The Carter group are certainly leading the industry in this branch of ceramics.

I would have liked to have heard Mr. Read on the crazing of faience and tiles when used externally and the difficulties of producing certain particular colours. I should like to know whether I am right in saying that although the tile-makers art has made great scientific progress in recent years there are still things about it which are not clearly understood even by the experts.

THE CONSISTENCY OF CONCRETE

The latest method of determining the consistency of fresh concrete to be devised in America is in terms of the penetration of a 6in, 30lb ball. This method replaces the older one of dropping a workman into the mix with the same object in view. You may remember the short story or the film about the Italian workman who perished horribly because no one remembered to fish him out.

CANADIAN SALARIES—II

A reader writes that his son, aged 24, and with an honours diploma in civil engineering, is earning $4,800 a year working for a Canadian structural engineering contractor. This is understood to be the usual salary for a newly graduated engineer in Canada. I am told that it is considerably more than he would be paid in this country, as he needs two or three years' training before he can qualify as an A.M.I.C.E.

GLASGOW SCHOOL OF ARCHITECTURE

The Glasgow school is celebrating its Jubilee. Formed by the amalgamation of the departments of architecture in the Royal Technical College and the School of Art, its first Professor was Eugène Bourdon, of the Atelier Daumet. He was appointed after the then doyen of French architects, Jean Louis Pascal, had been called in in 1903 to advise generally on architectural education in Glasgow. A dinner in celebration of the Jubilee is being held to-morrow. Let us offer our congratulations.

Menu cover, scarlet with gold figures, designed by George Mathers for the Essex, Cambridge and Hertfordshire Society of Architects Annual dinner, held last week at the Abercorn Rooms, Liverpool Street. At the dinner, the R.I.B.A. President's wife, Mrs. C. H. Aslin, was presented with an inlaid hardwood fruit bowl by Mr. R. Owen Vine, Hon. Secretary of the Society and Chairman of the Arts and Crafts Guild of the Hertfordshire Chapter, one of whose members made the bowl.

PLYMOUTH

Despite the eclipse of the battleship and an uncomfortable feeling about Britannia's primary rôle, there are still plenty of sailors to be seen in Plymouth. Drake still surveys the vast expanse of asphalt which for some incomprehensible reason covers the Hoe. If there is a sea mist, as there was last week, there is nothing to look at but asphalt, memorials of doubtful æsthetic merit, the lighthouse and asphalt. The architecture, with the exception of a terrace by John Foulstone, who had his own way of interpreting the Greek Revival, is lumpy stuff, although at the far end of the Hoe, up against the Citadel, there is a charming cottage painted pale grey with a pale green cast-iron decorated verandah. There is, perhaps rightly, a public bowling green on the Hoe. It is marred by a beastly olde worlde three-dimensional model of Drake bowling, mounted on an artificially rough-hewn post. This horror is an insult to the admiral's memory and should be removed.

My hotel was remarkable only for being as full of staircases as a drawing by Borromini but less architectural. It also had a bell for pressing when you had had a bath, not when you wanted one.

I had not seen the rebuilt area and was impressed by the amount that had been done. I did not think that any of the new buildings was particularly distinguished, although the overall appearance is reasonably satisfactory. The, generally, horizontal theme of one of the new streets has, however, been sharply broken by a building which is now nearing completion. The effect is not very happy.

Near a roundabout and opposite the site of the new G.P.O. a corner building has been treated so that its centre gives the impression of an important entrance. The pompous frame, in fact, leads to a minute, ill-shaped hall with a domestic-sized stair rising from it. This sort of "Civic Design" is unforgivable.

The general impression I had was of quiet pleasure tinged with disappointment that no one had tried any fireworks. The streets seemed too wide or the buildings too low. The 17-storey municipal office block to be built at the corner of Armada Way may well pull the scheme together.

I saw the completed portion of the City Architect's New Technical College, well managed, severe and a shade heavy in its detailing. I wished that the metal sculpture over the entrance had been three times the size, and that the doors themselves had been bigger. Some bright colour on the main elevation would, I think, have helped. All the same, I much preferred this architectural approach to that of the shopping quarter.

Plymouth is, I think, to have its fireworks in the end for I was allowed to see the advanced sketch scheme for the new covered market which Messrs. Walls & Pearn have designed. I shall be surprised if it is not the most interesting building of the lot, although it will have to compete for fame with Mr. Stirling's skyscraper.

TO THE THEATRE

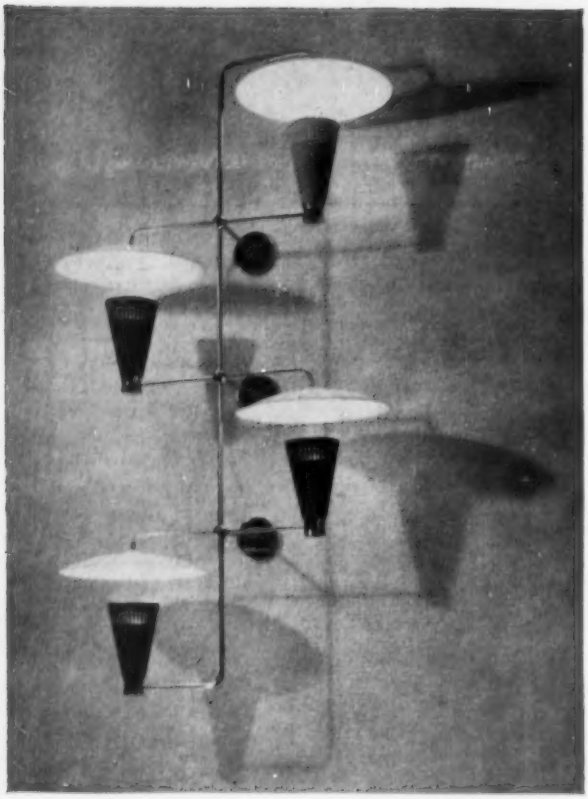
I excuse my laziness in not going more often to the theatre by making out that, when I do go, I enjoy it all the more. Certainly, I am always fascinated by the production, particularly when it is set in the Victorian period. Hedda Gabler, now with only three more performances to go at the Lyric, Hammersmith, is a fine play beautifully done, with Peggy Ashcroft as Hedda and George Devine as George Tesman, her husband. I enjoyed every line of it but, dare I say it, I enjoyed Motley's set and clothes every bit as much. Sir Hugh Casson told me that the set was almost exactly like the airport waiting room at Minsk in its heavy Victorian drapes, button-upholstered chairs and oil lamps.

There are, alas, now no parlourmaids nor butlers left save on the stage, and silver tea trays with shining spirit kettles were long ago discarded in the home. How nice it would be to be asked to tea with Peggy Ashcroft—or, at a pinch, Hedda Gabler—on the stage of the Lyric, Hammersmith—with General Gabler's pistols safely locked away somewhere.

It is extraordinary how romantic oil lamps have recently become, not the efficient, bright sort but the old cut-glass affair, with a smoking, smelly wick, standing on a Corinthian column and surmounted by a glass chimney and a spherical shade. The fashionable antique shops are full of them. Those whose houses are fully equipped with electricity find their old-world charm and soft light irresistable, my dear. People without electricity are inclined to think otherwise.

AFTER THE STOCKTON TEST

Allied Ironfounders have followed up their successful film of the Stockton Test with a handsome paper-covered book with the title, "Improvements and Conversions; the Problem and the Answer." The book examines the problem of sub-standard houses from the angle of the tenant, landlord and local authority in turn. Then it sets out the law on the subject and discusses grants and how they may be obtained; all in good, readable print on good paper, and well illustrated with drawings in mono-



In a recent international design competition for modern lighting fittings, Falk, Stadelmann & Company Limited entered two designs by J. M. Barnicot, M.S.I.A. Both these designs were amongst the 21 fittings from 9 countries which reached the final judging from a total entry of 463. Falks won the award for the best British entry and were placed 4th in the whole competition.

One of these designs was the wall feature above. It is made in polished and satin finished brass, and each of the lamp housings beneath the "Perspex" reflectors is a different colour. The fitting is 4ft high.

* * *

chrome. Then each type of house property is considered in turn with "before and after" drawings devised and prepared by Mr. Michael Shepheard, A.R.I.B.A. The suggested improvements are described and an approximate cost given. In every case modern heating and cooking appliances are required. So who would be so churlish, after receiving this lovely book, as not to use the products of Allied Ironfounders' own factories?

The two last sections of the book illustrate a number of case histories, taken from different parts of the country, and the full range of A.I. products, which is impressive not only for its size and scope but for the high standard of design. The book may be obtained on application to Allied Ironfounders, Ltd.

RURAL ELECTRICITY

Quite apart from the general sanitary and heating re-equipment of sub-standard houses, the provision of electricity and gas is essential before they can be considered as satisfactory. In urban areas this is comparatively simple and in many instances gas, at any rate, is already installed. In country districts it is often impossible economically to supply gas to isolated villages or houses but the provision of electricity does not usually present insuperable problems.

Last year the British Electrical Authority was permitted by the Government to go ahead once more with its rural development programmes. As a result electricity was taken to 13,000 more farms. A further five-year programme is in hand which will cost £50 million. By the time this programme is completed it is estimated that 70 per cent of existing farms and 80 per cent of rural cottages and houses will have electricity. B.E.A. have made good progress in their first year of release from restriction; let us hope that they continue as forecast. What is wanted now is a range of well-designed, good-looking and *cheap* light fittings for domestic use.

CONTEMPORARY LIGHT FITTINGS

Some of the best fittings on the market will be seen in the Building Centre's Third Annual Exhibition of Contemporary Light fittings which opens on December 1. If this exhibition follows the general lines of its two predecessors, cheapness will not be the first consideration. I understand that this year exhibits will be confined to those firms who show permanently at the B.C.

ABNER

NEWS OF THE WEEK

A.B.T. Reply to B.A.G.

The British Architectural Guild have issued a statement to the effect that whilst the A.B.T. have been in discussion with the R.I.B.A. about representation of salaried architects, the Association came to an agreement with the A.S.W. and A.U.B.T.W. to admit members of those two organizations as members of the A.B.T. The statement concludes that ". . . the resulting governing body (of the A.B.T.) must be so diluted by the Trades that the profession of architecture will have very small representation. . . ."

It is surprising that the B.A.G. have waited nearly four months to comment on a matter which was the subject of a press report on July 30 and in making their belated comment ignore a clarifying statement by the Association which was published on August 13. That statement explained that the rules of the A.B.T. had never allowed craftsmen (or "Tradesmen" as the B.A.G. prefer to call them) to become members of the A.B.T. and the new arrangements with the A.S.W. and A.U.B.T.W. had not changed that position in any way. The arrangements between the A.B.T. and the A.S.W. and A.U.B.T.W. were designed to meet the needs of clerks of works who were formerly craftsmen.

If the B.A.G. were aware of the published explanation when they made their recent statement it can only be concluded that they were deliberately misleading the profession. If they were not aware of the explanation it can only be concluded that they have not exercised the care in checking their facts which is the first duty of any organization seeking to establish a reputation as an authoritive and responsible body.

It may be of interest that the agreement to which they refer was first made in 1943 and was amended in March of this year—two months before the discussions with the R.I.B.A. were decided upon. It is also a fact that at the moment architects and architectural assistants are the largest single category in the A.B.T. and if more architects join us their increased numbers are bound to be reflected in the various committees and Council of the Association.

The B.A.G. suggest that the whole question of representation should be taken out of the hands of the major

professional body (the R.I.B.A.) and put into the hands of an independent Committee, perhaps sponsored by the architectural journals. The 21,000 members and students of the Royal Institute may not always agree with their leadership and may at times feel impatient of them. Nevertheless, they will treat the timing and contents of this latest suggestion with the same caution as they treated the advent of the B.A.G.

APPOINTMENTS

Mr. C. E. Hartland, A.A.Dipl., A.R.I.B.A., has been promoted to Deputy County Architect, Middlesex, in succession to Mr. R. N. Guy, A.R.I.B.A., recently appointed County Architect for Devon.

PARTNERSHIP

Mr. Frederick T. Orman, T.D., F.R.I.B.A., has taken into partnership Mr. Hugh C. S. Workman, A.R.I.B.A. The practice will continue as previously under the style of Orman and Partners, Chartered Architects, 106, High Street, Guildford (Telephone 67864 and 2403). The associate practice of Orman and Warren will continue as previously from 7, Gladstone Street, Nicosia, Cyprus, under the direction of Mr. F. J. Damon Warren, A.R.I.B.A., resident partner.

ANNOUNCEMENT

W. Dobson Chapman and Partners, of Macclesfield, have now taken over the practice carried on until his recent retirement by Arthur Clayton, F.R.I.B.A., at 6, Chestergate, Macclesfield, and 4, Clarence Street, Manchester, 2. The Macclesfield office will be transferred to Messrs. W. Dobson Chapman and Partners' present address at Jordongate House, Macclesfield (Macclesfield 2278/9).

The Manchester office will continue to be carried on temporarily at 4, Clarence Street, Manchester, 2, until December 1 when it will be transferred to 3, St. James's Square, Manchester, 2 telephone number: Blackfriars 9904.

COMING EVENTS

The Housing Centre Trust

November 30 at 1.15 p.m. Talk on "Some Problems of a Rural District Council," by A. H. W. Oliver, Chairman of the Housing Committee, Wokingham R.D.C., Berks. At 13, Suffolk Street, Haymarket, S.W.1.

The Faculty of Architects and Surveyors

December 1 at 7 p.m. Annual Dinner and Ball, at Park Lane Hotel, Piccadilly, W.1.

Town Planning Institute

December 2 at 6 p.m. "The New Town and Country Planning Bill, 1954," by Desmond Heap, LL.M. (L.M.) (Vice-President), at The Livingstone Hall, Broadway, Westminster, S.W.1.

CORRESPONDENCE

"Chips" from 50 Years Ago

To the Editor of A. & B. N.

Sir,—A little more than 50 years ago the writer came to London and commenced an architectural pupilage with R. G. Hammond, F.R.I.B.A., in Essex Street, Strand. We used to read *The Building News* at that time. With your excellent centenary number in mind when at R.I.B.A. on Armistice Day I was prompted to look up the *B.N.* for November 11, 1904. Just 50 years back! Columns of miscellanies were then headed "Chips," so perhaps some excerpts, or "Chips," may be of interest to your readers of to-day. Let's head these extracts "It makes you think," "Just 50 years ago" or what you will?

Under "Authority of the Architect" the "leader" informs us "It is a mistake for an architect to assert his authority in building for another person." "He should try as much as possible to become a passive instrument in his clients' hands . . ." and "When there is anything about which the architect cannot give way without compromising himself he should stand firm."

Hundred-pound Cottages

The writer of a letter in *The Spectator* of those days was approached by your, then, Editor to submit plans and details of some "substantial" cottages he had built in rural districts for something like £100 cost apiece. These cottages of four rooms each, on two floors, were built in blocks of three and four. The total labour bill per cottage was £46, which included total bricklayers' wages £13 and carpenters' £16. There were eleven thousand bricks used at 40/- per thousand and the final cost was £105 15s per cottage.

R.I.B.A. Opening Meeting of the Session

Mr. John Belcher, A.R.A., who was in the chair, spoke of his difficulty in following Mr. (knighted at this time for his work on the Queen Victoria Memorial and the Mall Scheme) Aston Webb.

The New Liverpool Cathedral

Inter alia Mr. Belcher said "the past year had been distinguished by the laying of the foundation stone of the new cathedral at Liverpool." "In the genius of Mr. G. G. Scott (now Sir Giles), who had inherited the traditions of a talented family, architects would watch with interest every stage and every feature in the growth and development of this important building."

Registration of Architects

"One subject now before the Institute is the subject of registration which is sometimes apt to be regarded hastily as a panacea for all ills." "A new Era has undoubtedly begun . . . but, after all, the great thing is not so much where we stand as in what direction we are moving."

Messrs. Batsfords

The death was recorded, at the age of 83, of Mr. Bradley T. Batsford, the founder of the well-known firm of architectural publishers.

Appointment of Surveyor at £200 p.a.

Hayes U.D.C. have appointed Mr. H. Curtis Gray, from the County Surveyor's Office at Maidstone, as surveyor at £200 p.a.

Pauper Architect

"At the inquest at Hackney on Alfred Millard Lucas, 80, an architect and surveyor and late inmate of the Hackney Workhouse, it was stated that he had lost £4,000 in a famous Glasgow Bank failure.

L.C.C. Electrification of Tramways

"The L.C.C. have decided on the construction of six furlongs of electric tramways on the conduit system in Rosebery Avenue, Finsbury."

Price of Materials

"Sheet lead was listed at £13 15s per ton and Bath stone delivered on rail at quarry stations at 1s per foot cube!"

Those were *the* days or were they not?

I am, etc.,
FREDERICK T. BUSH,
Assoc. R.I.B.A.

Porcelain Enamel for Sheathing

To the Editor of A. & B. N.

SIR,—Your first paragraph under this heading filled me with joy. Here was an ally. But you let me down rather badly in the second. After all, we have gone one better than the Americans in the production of colourful infilling panels for curtain walling, and if the courageous and progressive section of architects in this country have not gone to America for their inspiration, is it not possible that they have come to the conclusion that this funny old country has once again left everybody else standing in the development of a new idea?

Don't you think that porcelain enamelled metal is a risky material to employ in large areas on buildings which are expected to serve for at least seventy-five years under our climatic conditions?

We have in this country problems of atmospheric corrosion, high humidities followed by sharp frosts, and quite violent temperature changes. When we do employ porcelain enamel, which we are capable of making as well as anybody else, it is surely common sense to employ it only in readily accessible positions. Elsewhere it would seem desirable to use a facing of different material which is permanently stain and corrosion resistant which will not craze as the result of stresses set up by frequent temperature changes and which cannot be attacked by moisture.

I am, etc.,
E. G. ELTON,
Managing Director,
Plyglass, Ltd.

Destruction by White Ants

To the Editor of A. & B. N.

Sir,—I was interested to read in your issue of October 21 the letter from Sidney Loweth dealing with the question of damage by white ants. The letter did not state how long the building in question had been erected, nor gave details of the data that was sent out to his South African friend. If in fact the house was of comparatively recent construction this would appear to indicate, in the first place, that for a termite-affected area the foundations of the house were faultily designed. Moreover, it may be so that with certain types of preservatives annual renewal is recommended.

However, my company would have been pleased to have provided a fluid that would have effectively proofed the flooring of the house for a period of up to 30 years, further periods of immunity being secured by later applications. Treatment to all surfaces prior to laying the flooring would, of course, have been most effective, but application to the flooring *in situ*, even after infestation was detected, would have saved it.

In short, the solution is to insist on necessary precautions in foundation design and, since these can never give absolute protection, the proofing of all woodwork with a really efficient preservative. The words "accept defeat" exemplify the apathetic attitude so often adopted towards this pest, the ravages of which throughout all tropical and sub-tropical areas must be costing millions of pounds a year, a loss that could be easily avoided by a comparatively small investment in constructional precautions and effective preservative treatment.

I am, etc.,

E. LOMAS,

Export Manager, Rentokil, Ltd.

IN PARLIAMENT

London Contracts

Mrs. Lena Jeger asked the Minister of Works why contracts worth more than £4,000,000 had been placed by the Department with firms refusing to sign the certificate of non-collusion. Mr. Birch replied: Because their tenders were the lowest. (Nov. 16.)

Mr. de Freitas asked when it was intended to make an order under the Monopolies Act making unlawful agreements or arrangements referred to in the report of the Monopolies Commission on the London Builders' Conference. Mr. Birch recalled that on Oct. 19 he had stated that representatives of the London Builders' Conference had agreed to abandon the practices referred to. Discussions were still proceeding, and he was not yet able to add to his previous statement. (Nov. 16.)

The Bombed Cities

Brigadier Clarke (Portsmouth, C.) asked the Minister of Housing and Local Government for an assurance that there would be no curtailment of house-building in the bomb-damaged cities. Mr. Sandys replied that the rate of house-building in particular areas might vary from year to year, but he could give the assurance that he would most carefully watch the needs of bomb-damaged cities. (Nov. 16.)

Pollution Report

The Minister of Housing and Local Government stated that he had received the final report of the Beaver Committee on air pollution and was arranging for its publication without delay. (Nov. 16.)

Airfield Noise Suppression

Mr. Selwyn Lloyd, Minister of Supply, answering questions about the suppression of noise by aircraft firms, said he had decided that the appropriate way for him to contribute was by expenditure on research, estimated at about £100,000 this year. It was hoped that it would be possible reasonably soon to establish the kind of equipment that would mitigate the nuisance. He was not satisfied that the installation of noise suppression equipment should depend on financial assistance from the Government. (Nov. 15.)

Bridge Sites for Helicopters

Mr. Boyd-Carpenter, Minister of Transport and Civil Aviation, stated, in answer to Lieut. Col. Lipton, that neither Blackfriars Bridge nor Hungerford Bridge could bear the weight of a landing platform above it for helicopters. The platform would therefore have to stand on an independent structure. This would be very expensive, and probably also obstruct navigation. (Nov. 17.)

He also stated that advice on possible helicopter stations had so far been given to 50 county and local authorities. The Ministry had made available a memorandum giving general guidance on this subject. This was being revised to incorporate recent experience gained from single-engined helicopter operations in this country and abroad. (Nov. 17.)

Onus in Compensation

Before the Town and Country Planning Bill completed its passage through the House of Lords, the Lord Chancellor moved an amendment to Clause 36 (Additional payments in cases where no claim has been established), to define more precisely the Government's intentions on the working of the clause, which was intended to prevent a repetition of the Pilgrim case.

The Treasury, he said, would initiate discussions with the various appropriate authorities, and the aim would be to ensure that all straightforward cases were picked out at the outset and that there was no delay or argument about including the supplement in the price offered. In other cases there would be administrative arrangements to ensure that consultation took place and that advice was given where doubt arose, so that authorities acted on similar lines. It was the intention, he explained, that the claimant should not have to hunt and pursue the Government Department, but that the Department should look for the claimant and satisfy his needs. When price or compensation came into question the person initiating the purchase would make a point of drawing the attention of the owner to the effect of the clause. The amendment was agreed to. (Nov. 15.)

The Lord Chancellor moved amendments to make it clear that, before issuing a certificate for which the clause provided, the person acting for the Treasury (the district valuer) would give the owner of the interest to be acquired the opportunity of presenting his case; and to ensure that the Minister should pay compensation unless it was just and reasonable that he should not do so. Both were agreed to, and the Bill was read the third time and passed. (Nov. 16.)

Explaining Planning

During these discussions Earl Jowitt complained that the vice underlying all planning legislation was that it had become so complicated that the ordinary man did not understand it. He hoped that when the Bill became law it would be put on the list for a consolidation measure "in simple language." The Lord Chancellor, who had admitted difficulty himself in understanding the basic Act of 1947, promised to consider the suggestion, but drew attention to the evident magnitude of the task.

The Scottish Bill seems to fare better. On the concluding stages of this measure the Lord Chancellor said that action would be taken to make the Bill clear to all those who would be concerned with it. Explanatory papers would be issued by the Scottish Office and by the Central Land Board. In addition, there would be available for all the law agents' societies lectures given by experts, at which they could attend and ask questions about points that caused them doubt. (Nov. 18.)

Modular Society A.G.M.

The Modular Society held its first Annual General Meeting on the 17th at the Royal Society of Arts. Amid a round of applause, Sir Alfred Bossom was re-elected President: at the Council election that followed, Messrs. E. D. Hinchcliffe, J. M. Holt, A. H. T. Johnson and W. E. Tatton Brown were re-elected, Messrs. A. M. Gear, G. Goulden, S. F. Mill and A. Roscoe-Hudson were elected for the first time. A vote of thanks to the Chairman,

David Carter, was passed and after a short discussion on the next year's programme the meeting broke up. Two important meetings were announced, the first, on January 5, a paper will be read by Mr. Bruce Martin of D.S.I.R. the British Standards Institution, and the second on March 23, a paper by Mr. W. A. Allen of the B.R.S.

Public Works Exhibition, Olympia

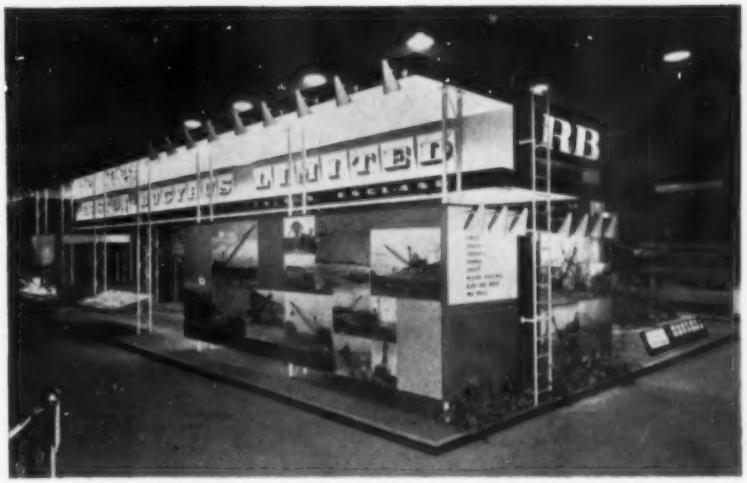
THE Public Works and Municipal Services Congress and Exhibition, opened last week by the new Minister of Works, the Rt. Hon. Nigel Birch, O.B.E., M.P., lasts only six days. There was much there for the private architect as well as for the man in public office. The diminishing accent on stands as design features was carried still further at this show. There is no doubt that the practice of some manufacturers of painting all their machinery the same colour, regardless of size, adds very much to the visual enjoyment of the scene. Great splashes of colour—yellow, blue, red, and green—were to be seen; colour in scale with the large exhibition area in which it is positioned. This is not to say that there were no well-designed stands; there were, and very good ones, too. One that comes to mind was that of Expandite, Ltd., who illustrated the path of water from the river to the house and back again, illustrating the points of application of their wide range of sealers, expansion joints and so on. This firm had a practical demonstration on the site of the Shipston Housing Scheme in Kensington at the same times for those who wished to see the practical application of their products.

Orlit, Ltd., besides illustrating their own system of construction, displayed evidence of many other activities, such as precast concrete work, reconstituted stone, prefabricated garages, sectioned inspection chambers, Bellrock partitions and so on.

The Ruberoid Co., Ltd., had a successful stand, one interesting feature being the recently developed jet and fuel resisting joint sealing compound.

This year Penfold Fencing & Engineering Co., Ltd., introduced two new products, Prestressed Concrete Posts and Stainless Steel Chain Link. Another development in fencing, a welded mesh known as "Binnlock," was shown by A. J. Binns, Ltd., who also exhibited the new "California" Cement Tennis Court, their well-known welded cloakroom equipment and the Dryad range of Architectural Ironmongery.

F. H. Bourner & Co. (Engineers), Ltd., exhibiting the increasingly widening range of "Supataps" and the "Supamix" series for bath, basin and sink, had on the other side of their stand a practical demonstration of the "Supadynamic" Power Driving Tool. It is interesting to note that the taps carry a lifetime guarantee against bad workmanship.



Public Works and Municipal Services Exhibition, Olympia. Stand designed for Ruston-Bucyrus, Ltd., Lincoln. By S. P. Jordan, A.R.I.B.A., M.S.I.A.

Sealocrete Products, Ltd., were showing for the first time a new oil- and acid-resisting sealer, oil- and acid-resisting paint and a new stone sealer. Also shown for the first time was Sealoplas plastic floor finish which can be laid for approximately one shilling a yard, including the sealer.

New equipment exhibited by the Atlas Diesel Co., Ltd., included their KE6MV portable compressor unit featuring the newly designed Armstrong Siddeley 6-11 h.p. single-cylinder air-cooled diesel engine.

Auto Diesels, Ltd., were showing a selection of equipment from their standard range of "Floodmaster" self-priming centrifugal pumps and the "Enmac" 250 amp. diesel engine-driven welding set with improved type undercarriage for outdoor use.

Aveling-Barford, Ltd., displayed seven machines and of these a light diesel roller and a 7½ cu yd heavy duty diesel dumper made their first appearance. Benford, Ltd., showed a selection of machines from their range of diesel dumpers, mechanical barrows and concrete mixers. A new diesel-driven 3½-ton concrete mixer was amongst several new models being exhibited by Blaw Knox, Ltd.

E. Boydell & Co., Ltd., showed the latest developments in their range of bulk material handling equipment. George Cohen, Sons & Co., Ltd., had on show a selection from their wide range of equipment which is available for both hire and sale.

A striking exhibit by Thos. W. Ward, Ltd., was a tower crane of French design which they are marketing in the U.K. It was shown for the first time in this country and owing to limitations imposed by the Olympia roof the normal maximum height of 101ft 6in was restricted to 62ft.

C. H. Johnson (Machinery), Ltd., showed a prototype of the new "Fasprime" series of centrifugal pumps amongst several exhibits on their stand.

Kwikform, Ltd., were showing a new design of steel formwork for concrete construction and the improved unit frame scaffolding system which they have recently developed.

Millers Machinery Co., Ltd., exhibited a 30 tons per hour fully mobile plant for the production of all types of hot rolled and cold asphalts and bitumious macadams.

R. H. Neal & Co., Ltd., had on show a range of cranes which are making their first appearance at any exhibition. These included flying jib and cantilever jib models which have recently been produced.

George Pike, Ltd., exhibited their new jet conveyors which are powered by either petrol or diesel engines.

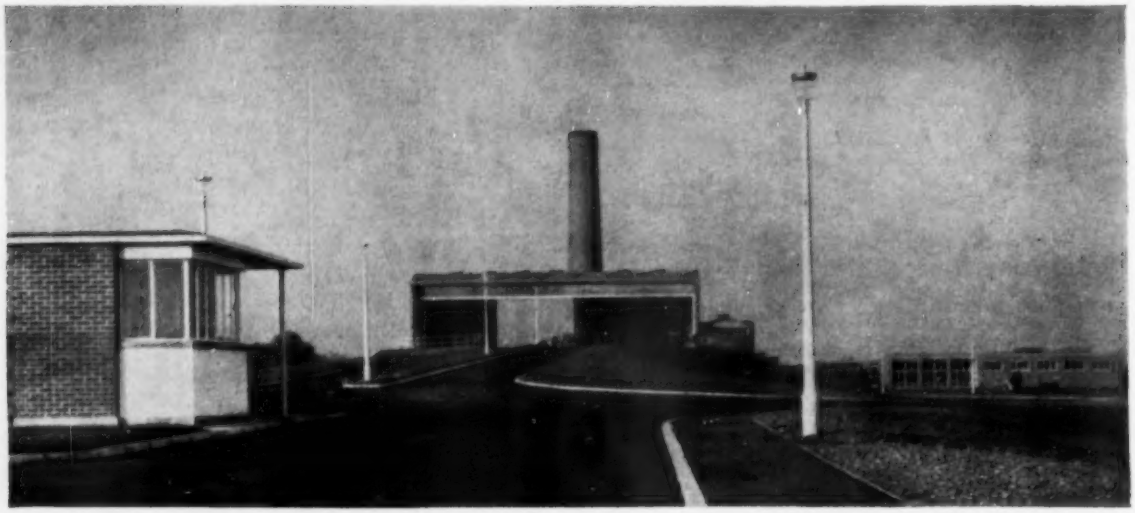
A special feature of the display by Stewarts & Lloyds, Ltd., was a large model of a street scene designed to portray the practical application of their tubes as used by Public Utilities.

Thos. Storey (Engineers), Ltd., exhibited several models to demonstrate the application of Bailey Bridging Equipment and Lorain Cranes.

Victaulic Joints for steel, cast or spun iron pipes were shown by the Victaulic Co., Ltd.

CORRECTION

The Single-Stack Plumbing demonstration is not, as was stated in a caption in last week's issue, at Queen Anne's Mansions, but at the Headquarters of the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1.



A new Refuse Disposal Plant at Charlton, Sunbury, built by the Borough of Twickenham. Serving at the moment Twickenham, Sunbury and Staines, it will deal with 175 tons of refuse in 8 hours with the usual salvage arrangements. The contract price was in the region of £250,000. Alfred S. Knolles, Borough Engineer and Surveyor. H. S. Gardiner, Assistant Borough Architect.

Research and Industrial Productivity Conference

On November 22, the Lord President of the Council (Most Hon. The Marquess of Salisbury, K.G.) spoke at a luncheon preceding a working conference on Research and Industrial Productivity. The President of the Board of Trade (Rt. Hon. Peter Thorneycroft, M.P.) and the Minister of Labour (Rt. Hon. Sir Walter Monckton, K.C.M.G., K.C.V.O., M.C., Q.C., M.P.) also attended the luncheon.

The conference had been organized by the D.S.I.R., in association with the British Productivity Council and the British Institute of Management. It was attended by leading industrialists, trade unionists and research directors. The object of the conference was to discuss how research is helping to increase industrial productivity and what more can be done. The main subjects of discussion were materials and fuel, costs and economics, work organization and the place of the individual or group in the drive for increased productivity.

The conference was private. Later, a report of the proceedings will probably be made available.

The Protection of Structural Steel—A Symposium

A symposium on "The Protection of Structural Steel," organized by the Corrosion Group of the Society of Chemical Industry, will be held in the lecture-theatre of the Institution of Civil Engineers during the days of Thursday, March 31, and Friday, April 1, 1955. The papers to be presented will include accounts of practical experience and of research with protective coatings gathered from several countries.

Some details of the proposed papers are shown in the list which follows, covering contributions from France, Belgium, Holland, Sweden and the U.S.A., as well as Great Britain.

Practical Experience

W. E. Ballard (Metallisation, Ltd.) and F. A. Rivett (Schori Metallising Co.)—"Practical Experience of Protection by Sprayed Metal Coatings."

J. Bigos (Steel Structures Painting Council, U.S.A.)—"Current Good Painting Practice for Steel Structures in U.S.A."

F. Fancutt (British Railways)—"Painting and Protection of Steel Structures (Great Britain)."

F. R. Himsworth (Imperial Chemical Industries, Ltd., Billingham Division)—"Protection Problems in Chemical Plant."

L. A. Ravald (North Thames Gas Board)—"The Preservation of Steel on Gas Works (in Great Britain)."

W. A. Johnson (United Steel Co., Ltd.)—"Some Factors in the Protection of Steel in and at the Steelworks."

Comparative Tests

C. Dechaux (Société des Peintures, Paris)—"Principles of Protective Painting."

K. F. Trägärdh and P. Nylen (Swedish Corrosion Commission)—"Exposure Tests of Paints and Zinc Coatings in Sweden."

J. C. Hudson and J. F. Stanners (British Iron and Steel Research Association)—"The Formulation of Priming Paints for Structural Steel."

H. W. Talen (Verf-Institut, Delft, Holland)—"Physical Examination of Paints in Relation to their Practical Performance."

M. Van Rysselberge and D. Bermane (A.B.E.M.)—"Results of the Researches carried out by the Belgian Corrosion Commission."

Further details of the arrangements for the meeting will be published later, but non-members of the Corrosion Group who wish to receive a copy of full notice of meeting and registration form, when it becomes available, are invited to apply to the Hon. Secretary of the Group, Mr. S. C. Britton, The Tin Research Institute, Fraser Road, Perivale, Greenford, Middx.

Scottish News

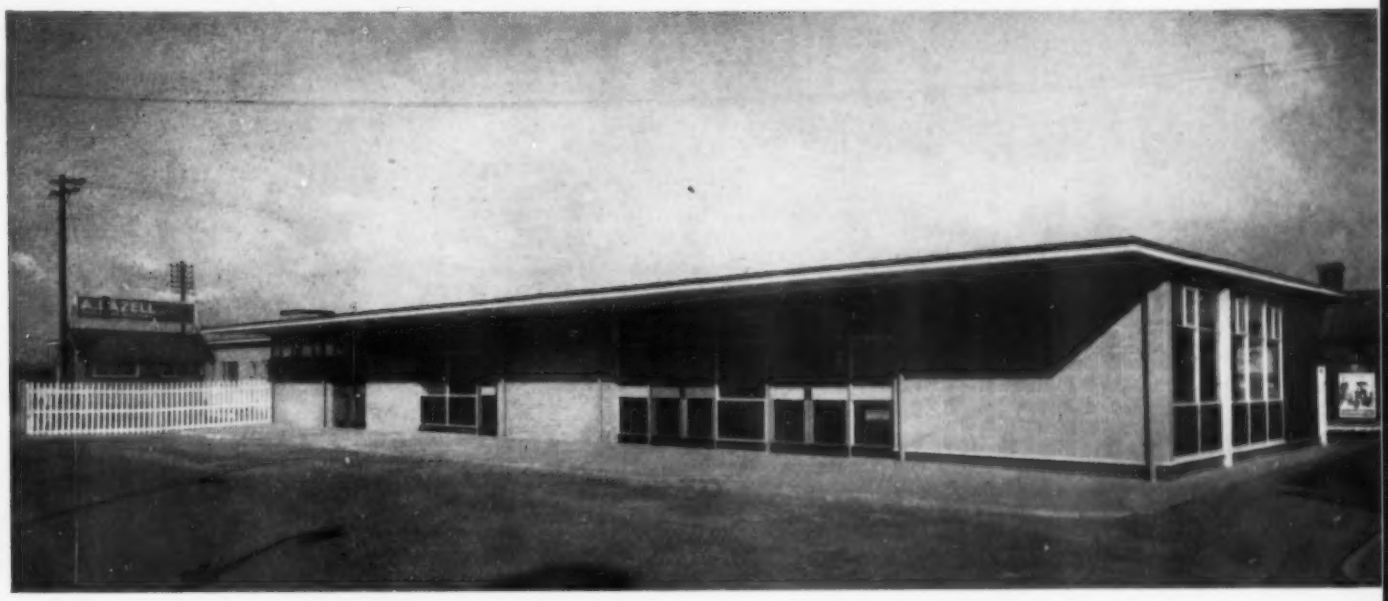
It is reported that Glasgow Corporation has approved the construction of two prototype ten-storey, no-fines concrete housing blocks at Toryglen. Each of the blocks will contain 80 houses, with individual balconies; the blocks will be of three sections, joined in a flat Y-shape rather than the normal T-shape. In the prototype blocks it is proposed to use electrical floor heating. The blocks are to be built by the Scottish Special Housing Association, as an extension of the Toryglen scheme for which the Association is responsible.

* * *

Mr. Sam Bunton, A.R.I.A.S., Glasgow architect, and town planning consultant to Clydebank Town Council, since 1942, has resigned from this position due to health reasons.

* * *

The new Church of Scotland hall at Bairdshill, which is to cost £20,503, has been designed by East Kilbride Development Corporation architects, who will also supervise the construction.



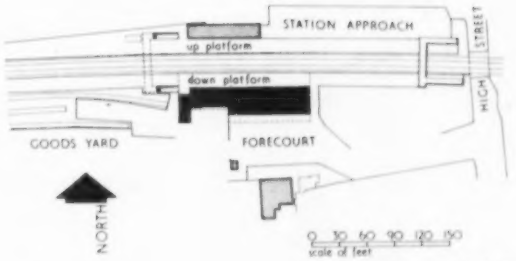
NEW STATION BUILDINGS, GRAYS, ESSEX

for the British Transport Commission

Architect: H. H. POWELL

Principal Assistant Architect:
R. T. WALTERS

Assistant Architect-in-Charge:
A. J. FAGG



BLOCK PLAN

THE building on the up side of Grays Station was seriously damaged by enemy action and has now been rebuilt. The new design provides improved facilities for passengers and greater working efficiency.

Planning

The principal public space is the combined Booking Hall and Waiting Room. This room is arranged with ticket control at the doors to the platform and the ticket issue windows to the left of passengers entering the station. On the other side of the room is the waiting area and bookstall. The waiting area is defined by a variation in the floor and ceiling patterns, and will be equipped with plastic-surfaced, moulded-plywood bench seats (not yet fixed).

The remainder of the accommodation consists of the Ticket Office, Parcels Office, Public Enquiry Office, Ladies' and Gent's Lavatories, Cycle Store and various rooms for the use of railway staff.

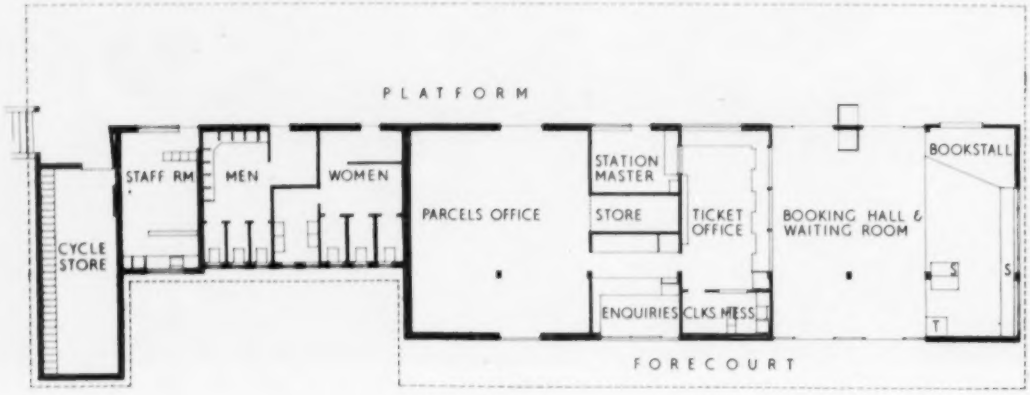
Construction

The roof of the building and the platform awning are of *in situ* prestressed concrete, the awning being 145ft long with a cantilever of 17ft. The method of construction adopted was to cast a vibrated slab of 5in maximum thickness in which 1½in × 2¼in grooves were formed at 9in centres. The prestressing wires were placed in the grooves, tensioned by the Magnel Blaton system, and grouted in. The slab was cast in three sections, the largest being 90ft × 57ft. The roof is supported partly by ordinary reinforced concrete columns and beams, and partly by load-bearing brick walls. The principle is that the roof spans over two parallel supports and the effect of the cantilevers is to produce a negative bending moment over the whole of the slab.

Materials

Externally the walls are faced with yellow kiln stocks, pointed in cream cement lime mortar, with panels of dove-grey faience and poster spaces with yellow tiled surrounds. Doors generally are in oiled teak except those in metal screens, which are pressed metal, painted.

ELEVATION, PLATFORM SIDE

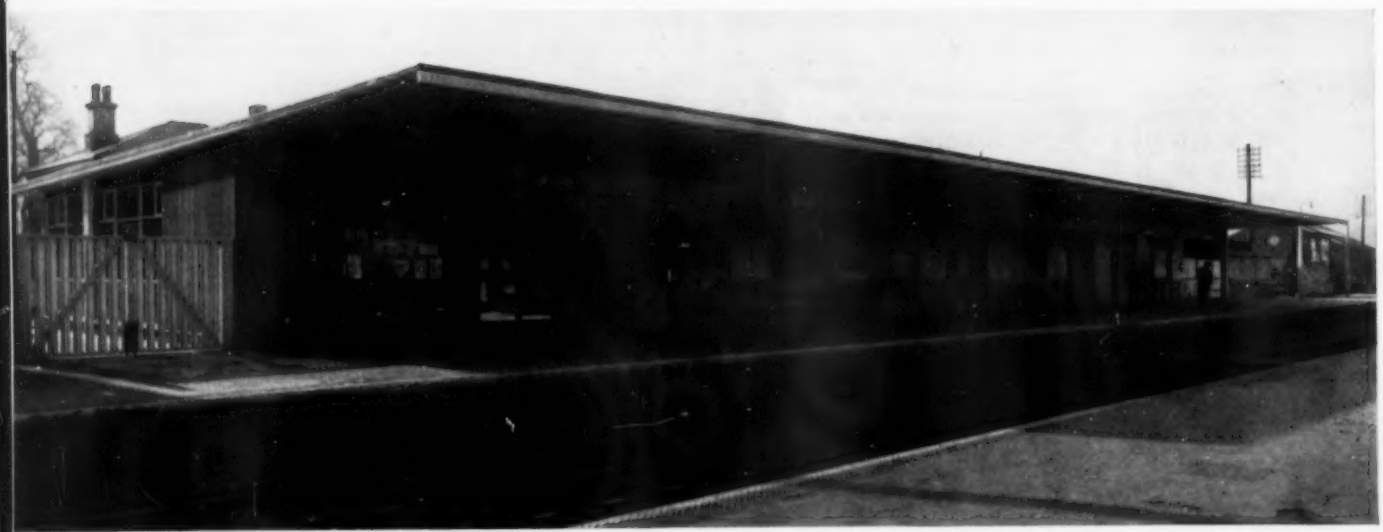


PLAN AND SECTION. SCALE: 1in – 24ft

New Station Buildings, Grays, Essex

All exposed concrete surfaces are painted in stone paint. The roof is covered with 3-layer built-up roofing felt finished with Bridport grit.

Internally, the floor of the combined Booking Hall and Waiting Room is in dark green terrazzo tiles with a white pattern introduced into the waiting area. The walls are partly panelled in strip Niove, and the ceiling is in acoustic tiles. Walls and ceilings of other rooms generally are plastered and painted with emulsion paint. Heating throughout the building is by electricity. The existing buildings on the down-side platform are to be painted to be in keeping with the new colour scheme.



Platform and Canopy

The slab which protects the platform and forms the roof of the building is of partially prestressed concrete, cast in situ. The slab was cast in three sections, separated by construction joints and varies in thickness from 6in to 3in. The main reinforcement is 0.276in high-tensile wire, some being prestressed and some acting as ordinary reinforcement. The prestressing force is reduced to the minimum necessary to ensure freedom from cracks under maximum loading. The additional reinforcement required to satisfy the necessary safety factor is unstressed. The reduced prestressing force requires a smaller area of concrete to take the initial compression than would be the case with fully prestressed concrete, and there is thus a saving in material as well as in anchorages.

Ticket Office
Booking Hall

General Contractors:
TERSONS Ltd.

Acoustic Tile Ceilings:
Merchant Trading Co., Ltd.
Bricks—Facing, Kiln Stocks & Blue Staffs:
Sydney A. Hunter, Ltd.
Bronze Screen to Ticket Office:
G. Johnson Bros., Ltd.
Built-up Roofing—3-layer.
Standard Flat Roofing Co., Ltd.
Concrete Roof Prestressing Equipment and Anchorages:
Stressed Concrete Designs, Ltd.
Door Furniture and Special Door-plates and Handles:
James Gibbons, Ltd.
Faience Facing Slabs:
W. B. Simpson & Sons, Ltd.
Furniture:
Cox & Co. (Watford), Ltd., Chairs; Porter London Products, Ltd., Tables.
Glazed Wall Tiles:
Parkinsons (Wall Tiles), Ltd.
Joinery:
Rippers, Ltd.
Paints:
Stone Paint to Canopy:
Jos. Freeman, Sons & Co., Ltd.;
Emulsion Paint and Oil Paints:
North British Chemical Co., Ltd.
Sanitary Fittings:
Adamsez, Ltd.
Station Name:
Signcrafts, Ltd.
Steel Shutter Gate:
The Bolton Gate Co., Ltd.
Sliding-door Gear:
Geo. W. King, Ltd.
Terrazzo Tile Paving:
W. B. Simpson & Son.
Thermoplastic Tile Paving:
Sentex, Ltd.
Ticket Office and Enquiries, Cupboards and Counter Fittings.
Hickman, Ltd.
Ticket Collectors' Boxes:
Fuller Hills, Ltd.
Windows and Screens—Metal:
Crittall Manufacturing Co., Ltd.

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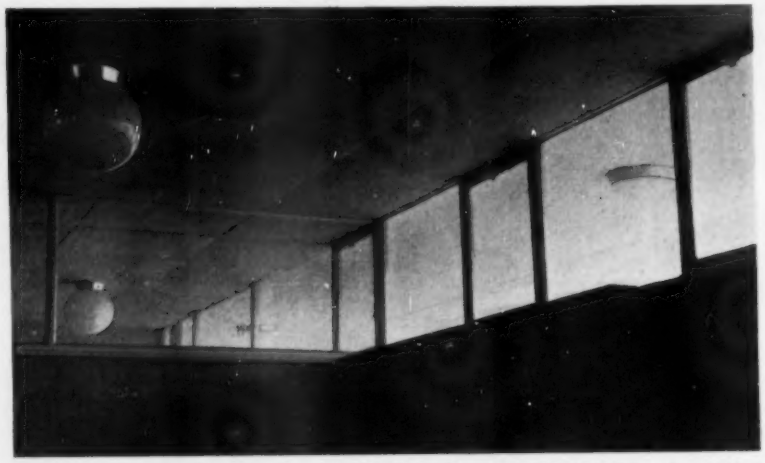


2

3

1. Detail of glazing.
2. Booking hall looking towards main entrance doors.
3. External view of booking hall entrance doors.

New Station Buildings, Grays, Essex

Exterior view

STOCKROOM EXTENSION, HORROCKSES

architect: DENNIS LENNON, M.C., A.R.I.B.A.

consulting engineer: R. A. SEFTON JENKINS, B.Sc., A.C.G.I., A.M.I.C.E., A.M.I.Struct.E

THE Clients' requirements were principally the addition of a new stockroom to their existing Eighteenth Century premises at 15, St. George Street, W.1, plus some redecoration and regilding in the entrance hall and showrooms. The new stockroom was built on the flat roof over the ground floor showroom which was illustrated in *The Architect and Building News* in 1951.

Although the stockroom contains dresses and is visited by buyers, packing and dispatch is also carried on there in part of the room. The possibility that the stockroom may be turned into a showroom in the future was kept in mind during the design.

It was found on examination that the rear wall of the premises was badly cracked and the existing back wall of the upper part of the building, which was to become the front wall of the new room, was composed of very poor quality brick.

The condition of the existing building, therefore, forbade the superimposition of any further loads and it was decided to carry any new structure down through the existing building and support it on its own foundations. This involved the inclusion of four new stanchions into the main ground-floor showroom which was achieved with the minimum effect on the design.

It was a condition that there should be the minimum of interruption to the normal work of the premises. This included the basement, which is occupied by sewing machines, and the first-floor showroom through which the building materials were brought, principally at week-ends. A derrick was rigged at a window of this showroom and the strength of the existing floor was calculated to ensure that it could bear the load imposed during the introduction of the main steelwork.

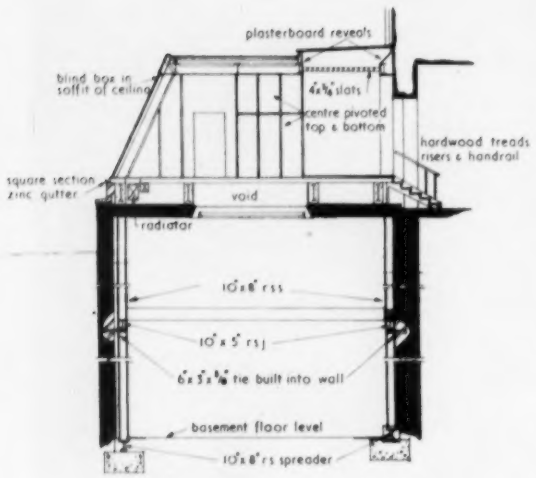
The existing flat roof of the main showroom, composed of filler joists in concrete and covered with asphalt, had a skylight centre. The new stockroom, about 36ft by 26ft, is built over the existing roof, the void between containing heating for the stockroom and lighting for the main showroom.

Having found that a steel frame was necessary, it was decided to carry the roof on welded steel portal frames with R.S.J. purlins between. The floor is made up of precast concrete units supported on a framework of R.S.J.s. The portal frames were decided upon because sight lines dictated a set-back to the face of the stockroom. If the column had merely been continued up and welded at a slope, a prohibitive bending moment would have been induced in it. The four columns were tied together at the level of the main showroom floor in order to reduce their effective length against buckling.

During the excavations for the new foundations various complications, such as unplotted drains and so

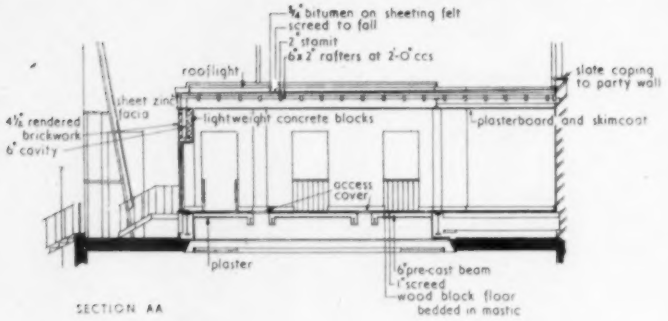
[Continued on page 655

Showroom Extension, Horrockses



SECTION BB

CROSS SECTION

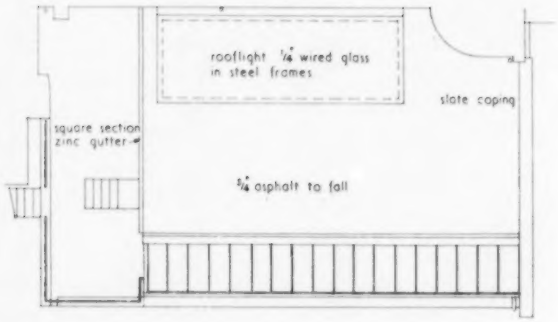


SECTION AA

LONGITUDINAL SECTION

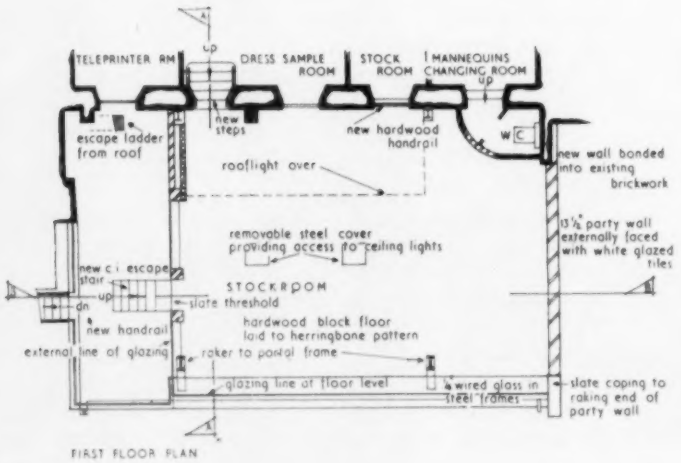
Scale: 1in = 16ft

The special racks in the stockroom were designed by the architect to act as screens to sub-divide the floor area.



ROOF PLAN

PLAN OF STOCKROOM



FIRST FLOOR PLAN

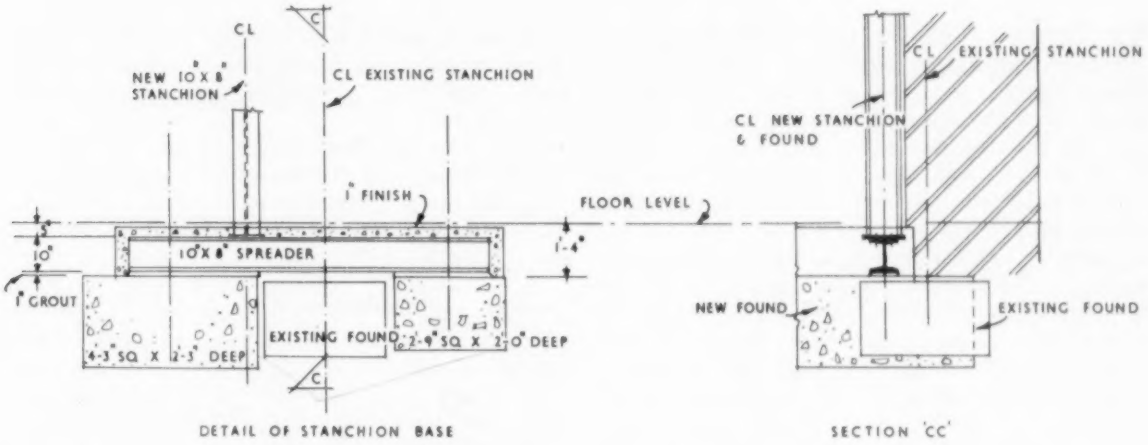
Continued from page 653]

on, were found. The presence of unexpected foundations necessitated special measures being taken. The load from a column base is taken by an R.S.J. spreader cased in concrete. This spreader spans across the existing foundation causing the obstruction onto two mass concrete pad foundation blocks. The feature is illustrated in the detailed drawing below.

The stockroom is single glazed with pleated paper blinds to screen strong direct sunlight from the fabrics. The floor is finished with wood blocks and the walls are plastered. The exposed parts of the portal frames are covered with fire-resisting material. Heating is by hot water in cast-iron radiators below the floor, with metal grilles at floor level over; lighting is recessed in a false ceiling. The freestanding storage furniture was designed by the architect so that it could be erected in a variety of arrangements in order that the floor area could be broken up quite freely.

General Contractor:
George Smith, of Avery Row, Ltd.

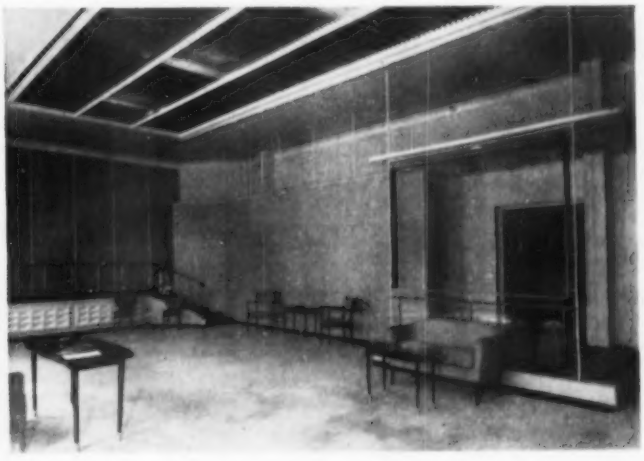
Asphalting:	Lawford Asphalte Co., Ltd.
Blinds:	J. Avery & Co., Ltd.
Glazing:	Heywards, Ltd.
Heating:	A. E. Rasey & Co., Ltd.
Precast Floor Beams:	Concrete, Ltd.
Steelwork:	Smith Walker, Ltd.
Wood Block Floors:	Acme Flooring & Paving Co., Ltd.

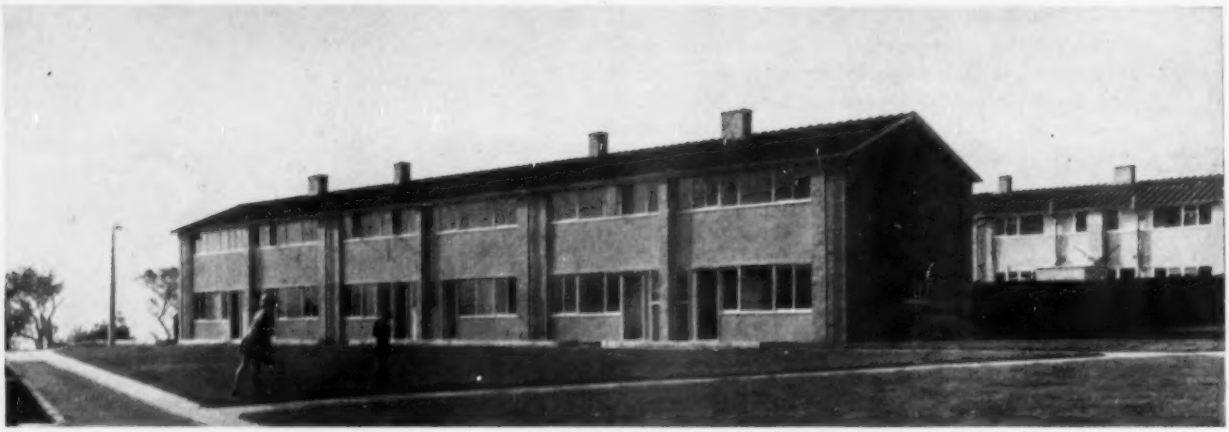


Details of a typical stanchion base showing the method of distributing the load around the existing foundations

Interior of stockroom

Main showroom, with the new caged stanchions on right





DEMONSTRATION HOUSES, CANTERBURY.

L. HUGH WILSON, City Architect.
C. W. GUMMER, Deputy City Architect. R. C. PANNETT, Assistant in Charge.

IN December 1953 the Minister of Housing and Local Government invited the Canterbury City Council to erect a number of houses to demonstrate possible methods of making further reductions in costs by using the cross-wall technique. With this method the brick party walls take all loads from floors and roofs and the front and back walls can be reduced to light prefabricated panels. There is also the possibility of using dry interior finishes and factory-made components. The Ministry produced memoranda in consultation with the Building Research Station giving general advice on the principles to be followed in using this method of construction and also suggesting possible materials and processes for the various parts of the structure.

The City Council welcomed the invitation of the Minister and it was eventually decided to build 25 18ft frontage houses at London Road Estate and 11 15ft frontage houses at York Road. The drawings and specifications were prepared in close consultation with the Ministry and the Building Research Station.

Sketch plans were submitted to the Ministry in February and draft working drawings towards the end of March. Bills of quantities were prepared and prices were negotiated with two contractors and these were forwarded to the Ministry for approval at the end of April.

All the houses are of the 3-bedroom 4-person type and are suitable for building in terraces. Access to the rear garden is through a store and kitchen, and the dustbins are sited at the front of the houses.

All houses are in accordance with the Ministry's requirements. Electric light and power points are provided as usual, gas and electric points are provided for the installation of a cooker and there is also a wash-boiler. There are cupboards in two of the bedrooms. Ground- and first-floor ceiling heights are 7ft 6in.

Final cost statements have now been prepared for 15 houses at London Road and 5 houses at York Road. These costs show an average saving of £64 per house over a comparable 2-bedroom house in traditional construction.

Work at London Road was commenced on May 10 and on November 15 15 houses were completed and the remaining ten were in an advanced stage of construction. The houses at York Road were commenced on May 24 and completed on November 13.

Outline Specification

Reinforced concrete foundations to cross walls. Concrete ground-floor slab thickened at front and back edges. Cross walls: 11in brick cavity walls plastered. Panel walls: timber frame covered externally with felt, 1in woodwool slabs, wire netting and two coats rendering, and internally with plasterboard faced with foil on one side and with setting coat. Internal partitions: 4½in brick or 3in breeze on ground floor, plasterboard partition slabs on first floor. Roof: solid timber purlins spanning between and anchored to cross walls with hangers to support ceiling joists. Covered with wire netting, felt and coloured asbestos cement Trafford tiles with purpose made curved ridge. 1in thick layer of exfoliated vermiculite between ceiling joists as insulation. Floors: asphalt finish to ground floor. Timber joists to first floor spanning between and anchored to cross walls covered ⅞in square-edge boarding. Ceilings: plaster lath with skim coat. Windows: metal casements in wood framing to front and back panel walls. Heating: Type E.H.1—Ideal Boiler in kitchen providing domestic hot water and serving radiator to heat living room. E.H.2—Open fire in living room with back boiler to provide domestic hot water only. E.H.3—Raymax convector fire in living room with back boiler providing domestic hot water and serving radiator in dining space. E.H.4—Park Ray No. 2 convector fire in living room with back boiler providing domestic hot water only. Lighting:

the whole installation is carried out with Polythene-insulated P.V.C. sheathed cable enclosed by light-gauge close-joint conduit only where buried in plaster.

Tenders

On the London Road site, types E.H.1 and E.H.2 (3-bedroom 4-person) tender for 25 houses amounted to £24,987. The average price of house on level site (including external works) amounted to £996. Tender price per ft super—27s 4d. Floor area: 732 sq ft.

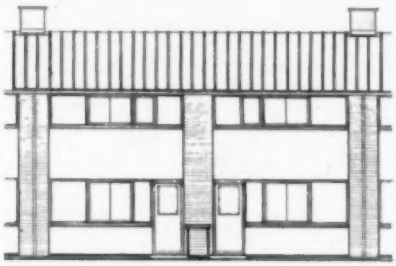
At the York Road site, types E.H.3 and E.H.4 (3-bedroom 4-person) tender for 11 houses amounted to £11,470. Average price of house on level site (including external works)—£1,026. Tender price per ft super—26s 11d. Floor area: 765 sq ft.

Final Costs

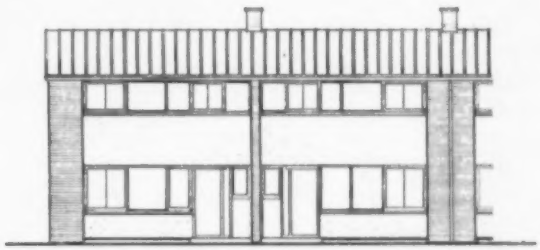
These are known for 15 houses only in one contract and for 5 houses in the other but it is not anticipated that the final costs for the balance of the houses will vary from those already agreed. For 15 houses at London Road the average final cost on level site (including external works) amounted to £997. At York Road the average final cost on level site (including external works) amounted to £1,041.

Final Cost Comparisons

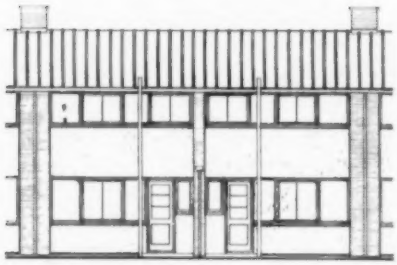
Messrs. Widnell & Trollope, Quantity Surveyors, have attempted to assess the value of the demonstration houses by comparing their cost with houses of the type previously built by the City Council and on the basis set out below



FRONT ELEVATION

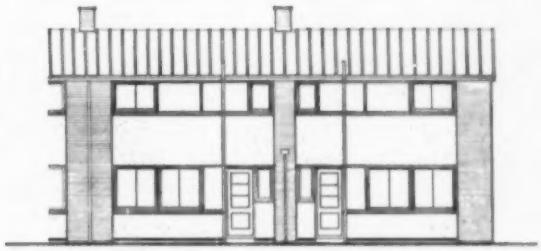


FRONT ELEVATION



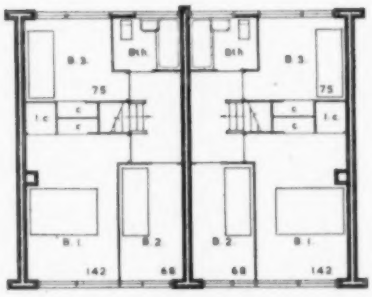
REAR ELEVATION

TYPE EH3 TYPE EH4.

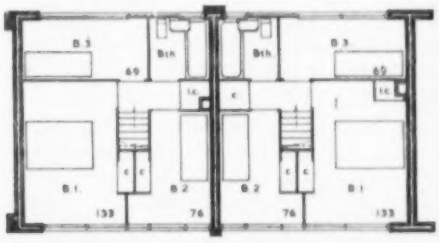


REAR ELEVATION

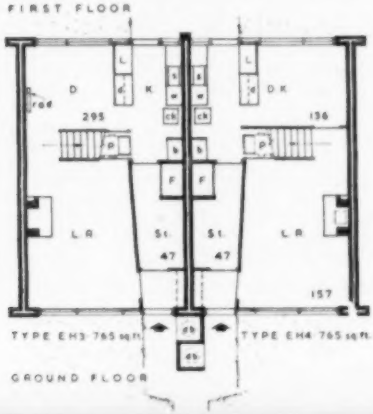
TYPE EH1 TYPE EH2.



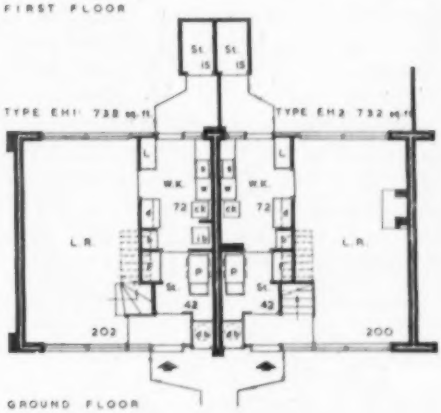
FIRST FLOOR



FIRST FLOOR



GROUND FLOOR



GROUND FLOOR

Demonstration Houses, Canterbury

they estimate that £1,284 was saved in building 20 houses, an average saving of £64 per house.

The best comparison appears to be afforded by the Biggleswade Passage Contract for 14 two-bedroom houses known as type 2C2. The contract for these houses was let at about the same time as that for the demonstration houses and the contractors, Messrs. Hawkes are also the contractors for one of the demonstration contracts.

Both types of house are of much the same floor area and each provide accommodation for four people. The demonstration houses have three bedrooms; an appropriate increase has, therefore, been made on the tender prices for the two-bedroom 2C2 type houses for the extra partitioning required for the third bedroom. Adjustments have also been made for differences in superficial area and for the fact that the 2C2 contract was for semi-detached pairs while the other was for terrace houses.

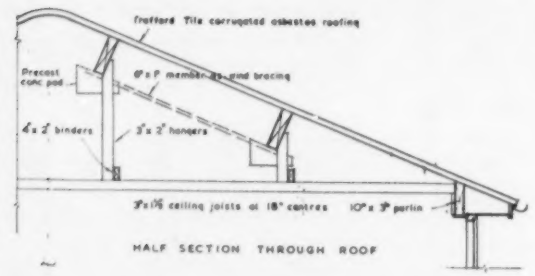
External works and drainage have been excluded in both cases.

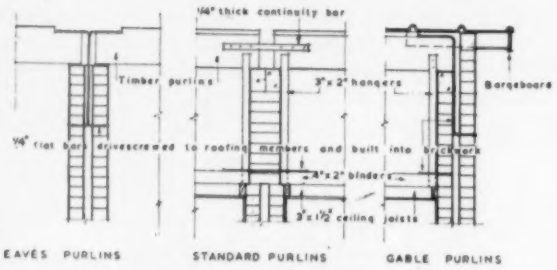
The 2C2 contract and the demonstration house contracts for type E.H.1 included external outbuildings (although type E.H.1 also has a small internal store). The cost of these outbuildings has been omitted in the cost comparison between types 2C2 and E.H.1, so that the comparison will be with the houses alone. But as demonstration type E.H.3 has a larger floor area with a bigger internal store and no external store the comparison in this case has been made with the cost of type 2C2 *with* the external store included.

The figures used in the following assessment are the tender figures for the Biggleswade Passage Contract (type 2C2) and the final costs for the first groups of demonstration houses adjusted for the factors mentioned above.

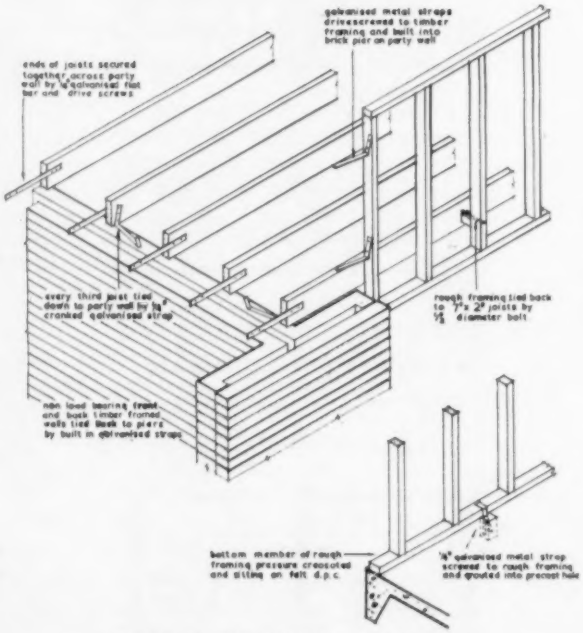
Savings

In a block of six houses, the cost of a single house type 2C2 brought up to date but reduced to similar floor area as house E.H.1 is £1,002. The cost includes an additional door and partitioning, etc., to form a third bedroom and will thus provide a direct comparison. The cost of a single house type E.H.1 is £935. The saving of experimental house over traditional house is therefore £67. In a block of nine houses, the resultant saving is £68. In a block of five houses the cost of a single house type 2C2 including outbuilding brought up to date but reduced to similar floor area as house type E.H.3 is £1,041. The cost includes an additional door and partitioning, etc., to form a third bedroom and will thus provide a direct comparison. The cost of house type E.H.3 is £987. Therefore the saving of experimental house over traditional house is £54. The average saving is therefore: $9 \times 68 = £612$, $6 \times 67 = £402$, $5 \times 54 = £270$. Total £1,284 divided by 20, which is £64 per house.





ROOF CONSTRUCTION



DETAIL OF METAL STRAPS

Main Contractors:

K. A. Hawkes Ltd. (London Road Site)

G. Lewes & Son (Dover) Ltd. (York Road Site)

Asbestos Cement Roofing: Turners Asbestos Cement Co., Ltd. *Bricks:* Eastwoods Sales, Ltd.; London Brick Co., Ltd. (York Road). *Electrical Installation:* South Eastern Electricity Board. *Fixing Asbestos Cement Roofing:* Eastwood Sales, Ltd. *Hot and Cold Water Installation:* W. G. Flanders & Sons, Ltd. (York Road); K. A. Hawkes, Ltd. (London Road). *Internal and External Doors:* Gliksten Doors, Ltd. *Insulated and Uninsulated Plasterboard, Woodwool Slabs and "Zonalex" roof insulation:* Gyproc Products, Ltd. *Ironmongery:* B. Finch & Co., Ltd. *Park Ray No. 2 and Raymax Convector Fires:* Radiation Group Sales, Ltd. (York Road). *Sanitary Ware:* A. Olby, Ltd. *Timber Kitchen Units:* Jayanbee Joinery, Ltd. (York Road); K. A. Hawkes, Ltd. (London Road). *"Valchrome" Pitch Mastic Flooring:* Val de Travers Asphalte Paving Co., Ltd.

Aluminium Centenary Exhibition Building. Paris

Designer : JEAN PROUVÉ

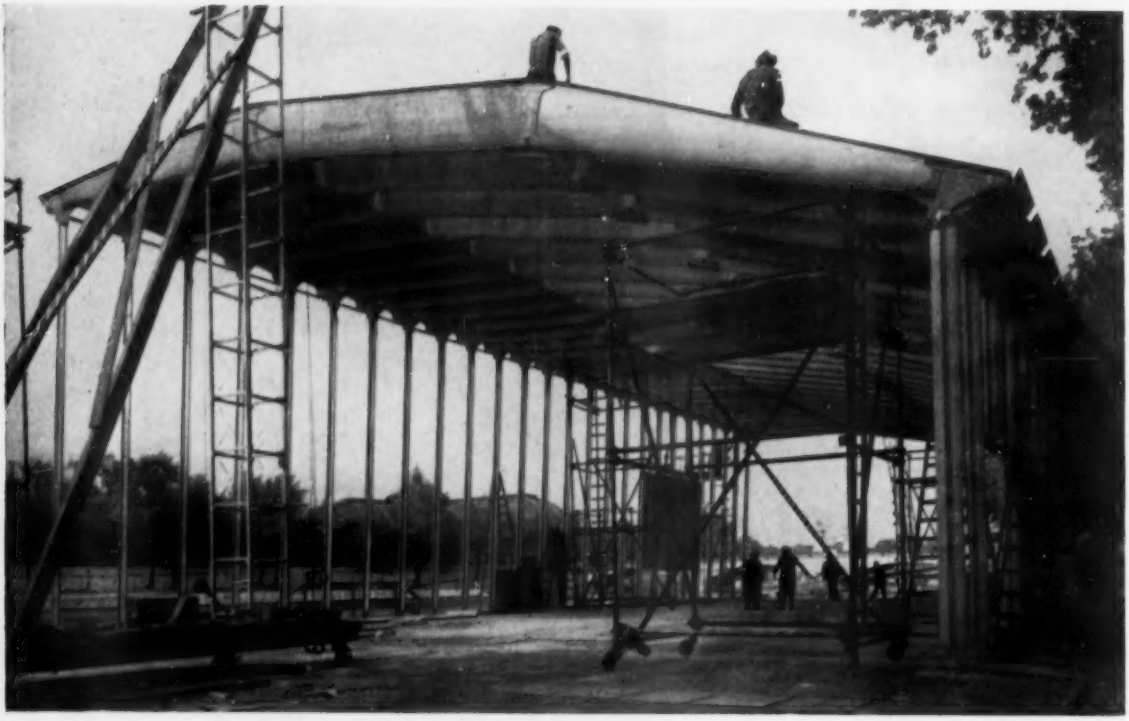
THIS building was designed and built specially to house the Aluminium Exhibition, and will later be used, either as a whole or in sections, for accommodating other types of function.

The lightweight construction is easy to dismantle and to transport from place to place. It satisfies the conditions laid down by the French Government in regard to the effects of snow and wind (a wind of 180 km per hour, snow 60 kg per sq metre)=(wind 112 miles per hour, snow weighing 12lb per sq ft). It is made entirely of light metal and has a self-supporting roof composed of 114 trusses having a span of 49ft, set at a distance of 53 inches apart and resting on tubular columns made of light alloy. This arrangement makes it possible to divide the area every 15ft 9in, which is the general dimension adopted for exhibition stands.

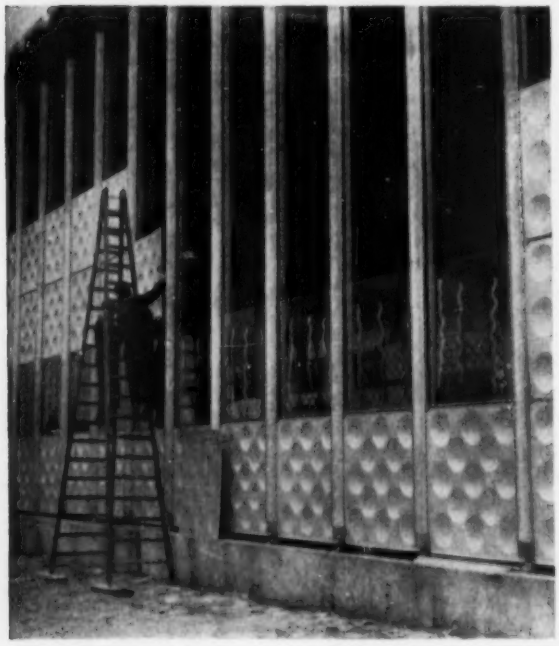
The trusses, which are of great rigidity, consist of sheet metal 4 mm thick pressed into a V-shape in three units having a length of 19ft 8in each, assembled on the work site by means of joint pieces moulded in light alloy. The space between the trusses is covered in by means of "tiles" made of thin sheets of light metal (thickness 16/10), using hook bolts, which ensure a simple and rapid erection and dismantling. By virtue of their cross-section, these trusses also constitute gutters for carrying away the rainwater. The trusses weigh 770lb each.

The total weight of the roofing constructed in this way comes out at less than 25 kg per sq metre (5lb per sq ft).

The façades are made up of panes of glass alternating with aluminium panels according to a pattern which can be modified as desired according to the purpose for which the building is to be used and the effect it is desired to obtain. These panels and panes are simply fixed in position by means of clips which fit into grooves in the pillars of the façades. All units which cannot be dismantled are of very light weight, easily handled by one or two men. The weight of a column of the main façade is 70lb, and in the secondary façade, 40lb. The main façade is 30ft in height, whilst the secondary façade is 22ft high. In all, the total weight of the building, excluding the glass, is less than 6lb per sq ft floor space.



Aluminium Centenary Exhibition Building



The horizontal wind bracing is effected by means of steel cables bearing on four girders at each end of the building.

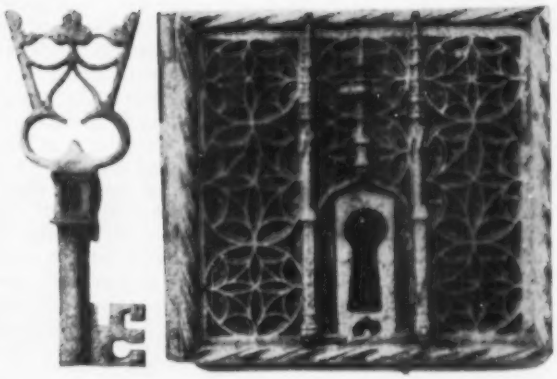
The wind stresses on the façades are absorbed by the tubular reinforcement struts of adjustable length, which are situated every 15ft 9in along the exterior of the secondary façade. In the plan of this same façade, there are tie-rods to give resistance to wind thrust on the gables.

The roofing is supported on the two façades, the skeleton of which consists simply of columns.

The tubular cross-sections of the light-alloy columns are made by fixing together two half profils, which are spot-welded together. The columns are placed at a distance of 53in apart and are fixed to the ground by means of moulded units which act as supports, and in which they are articulated on a pivot. At the top they are joined together by a similar part, again by means of a pivot, which joins them to the ends of the trusses. The ends of the trusses are shaped to get rid of the rainwater by draining away through the inside of the pillars.

Locks

This is the third article of the new series which are appearing once a month dealing with building accessories. The next article will deal with window furniture



THE following British Standards are applicable, BS 2088, Performance Tests for Locks; BS 455, Schedule of Sizes of Locks and Latches for Doors.

BS 2088, a new B.S., the use of which architects and builders should encourage in the interest of householders who have suffered quite unnecessarily in the past, covers performance testing of locks, and is a means of assessing quality in relation to the durability of locks and latches. It comprises a series of tests which ensure the general strength and durability of locks, their mechanisms and their cases. Architects are probably deceived quite often by the appearance of the locks they are offered. A poor-looking mortice lock case does not necessarily mean it is a bad lock, in fact it may be better since the money has been spent on the quality of the metal and the strength of the working parts rather than on the case.

BS 455, which now needs relating to this more recent British Standard 2088, covers certain types of locks and latches for domestic application. It also needs amendment to bring it up to date so as to cover small latches without locks of both vertical and horizontal types and also to cover dead locks suitable for external doors. This standard includes a range of locks and latches of different mechanisms contained within standard cases, so that they are interchangeable for a given morticing of the doors. The purpose of the interchangeability is to permit of factory morticing of doors which is cheaper than cutting mortices on site. The standard does, however, cover also horizontal locks and latches, rim locks and latches and night cylinder latches.

Locks for external doors

Locks, other than dead locks with the keys removed, need fixing out of reach of glass panels which can be broken so easily to release many of the types normally used, such as night cylinder locks. Mortice dead locks with at least four levers, and preferably more, are a better form of security than most types of cylinder lock, but householders may dislike the larger-size keys which normally accompany the less expensive mortice locks.

The normal type of rim lock used on back doors provides very poor security, and their use must be associated with adequate bolts. Many of these rim locks are finished by being japanned, and it will be found that they rust fairly quickly and the japanning provides a poor surface for painting. The use of galvanized finishes or plastic cases makes this type of lock much more serviceable in semi-external conditions.

Padlocks and staples are often used for external doors, such as those used for coalsheds, but it will be found that these are very easily forced; moreover, padlocks and staples are inconvenient to handle and it is better to use a rim lock placed on the inside of the door; it is, of course, better if mortice locks are used if the design of the doors so permits. Ledged and braced doors are often used in such positions and on these it is impossible to fix mortice locks, but framed, ledged and braced doors can have mortice locks fixed in them.

A small but important point in connection with locks used on external doors—it is very desirable that there should be some form of catch which will hold the latch if these cannot be opened from outside, to prevent the door closing on the householder and leaving him outside without a means of entry.

Locks for Internal Doors

Mortice locks and latches are much to be preferred to other types; they are less liable to damage, much nicer to look at, possibly more expensive in first cost especially in regard to fixing, but probably cheaper over the life of the house as the maintenance is less. The type of lock and latch depends on the design of the door, as those with narrow styles enforce the use of narrow locks with which knob handles cannot be used without damage to users' knuckles. Opinions vary very much as to whether or not a lock is required on normal internal room doors, and there has been a growing custom to fit latches only, but this is unpopular with some householders who like to lock rooms to keep out children; and a lodger prefers a locked door. Latches, both with and without locks, will be found generally to be less troublesome than pull handles with ball and similar small catches. Normal types of latches will adjust themselves to small amounts of movement in the woodwork, or can be adjusted more easily when greater movement takes place. Narrow cased 5in or 6in horizontal latches with knob handles are generally less costly in maintenance even if they are more expensive to fix; they are certainly more comfortable to use and much nicer to look at.

In those types in which reversible latches are available it is wise to specify them. It is important that face plates are strong, since much of the efficient working of the lock depends on their ability to withstand the usage to which the locks are placed. It is important that the screw holes in the face plates are kept well clear of the lock case to give sufficient hold to the screws. Striking plates also need to be strong and properly shaped to lead the latch into the recess. It is very undesirable that parts of the striking plate should project from the face of the woodwork as such projections are very liable to tear clothing.

Finishes

The fore-ends and the striking plates are really the only parts of a mortice lock which show in the final position, therefore it is preferable that these should have a finish such as B.M.A., chromium plating or be of brass. Painted

Picture on this page is of a 15th century French lock and key in the Victoria and Albert Museum.

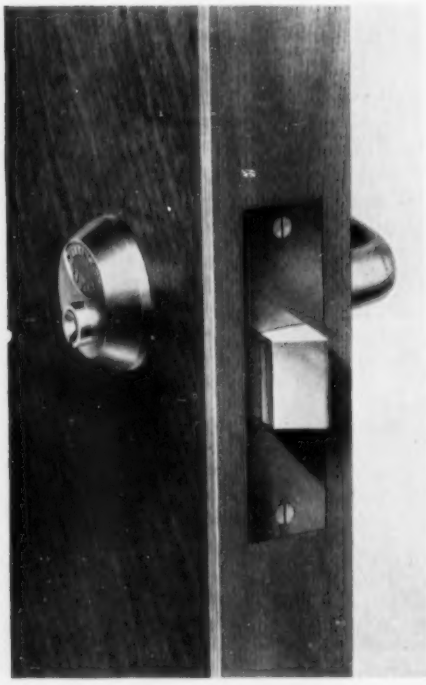
fore-ends and striking plates are never very satisfactory as the paint is scraped off them by the movement of the latch. Rim locks are usually finished, because they show the whole of the case, in Berlin black or are japanned. The japanned finishes never seem to be very satisfactory, especially in rooms such as bathrooms and kitchens where there is a humid atmosphere, and it is usually necessary, at least ultimately, that japanned cases are painted thus, and it is better that they should be made either of material which does not ultimately need painting, such as plastics, or that they have a finish which will rustproof them and can be satisfactorily painted with the woodwork from the commencement of the building. BS 2088 recommends that locks which are to be supplied for use under outdoor conditions, and these conditions in fact apply in a number of other situations where there is high humidity, should have all their steel parts treated against corrosion, and those parts which are not so treated should be made of a corrosion-resistant material.

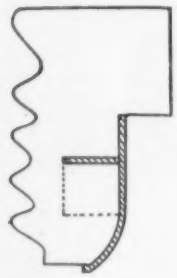
Attention should be paid to the amount of play between latches and the locks and their surrounding foreplate and the striking plate as, if there is an excessive movement, there is a liability for doors to rattle. On the other hand, this should not be a very tight fit otherwise the locks will need constant adjustment at least in the early days to allow for slight movement of the woodwork in which they are fixed. It is important to remember that most domestic locks and latches are very seldom oiled and, therefore, they need to be of good quality because the latches to room doors have to operate a quite phenomenal number of times every year, and if no maintenance is applied to them their durability must be relatively short unless the materials are quite satisfactory.

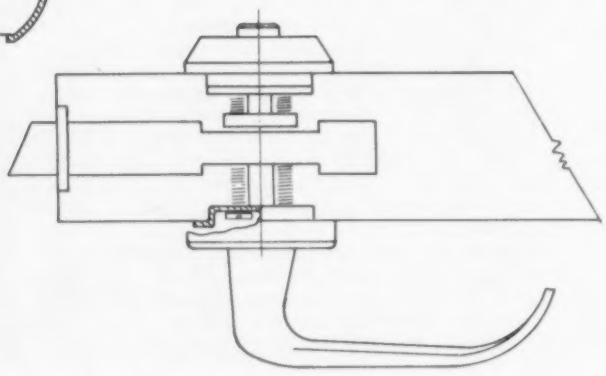
List of Manufacturers.

ASH & ROGERS, LTD. (Asro),
Bentley Lane, Walsall.—Walsall 4064.
CHUBB & SONS LOCK & SAFE CO., LTD.,
40-42 *Oxford St., London, W.1.—Museum* 5822.
W. C. DAVEY & Co.,
Tottenham Court Rd., London, W.1.—Museum 4414.
EREBUS MANUFACTURING CO., LTD.,
Albion Works, Willenhall, Staffs.—Willenhall 261.
JAMES GIBBONS, LTD.,
St. John's Works, Wolverhampton, Staffs.—Wolverhampton 20401.
HEENAN, BEDDOW & STURMEY, LTD.,
Crown Works, Clemson St., Willenhall, Staffs.—Willenhall 8.
HOBBS, HART & CO., LTD.,
Staffa Rd., London, E.10.—Leytonstone 1034/5.
INGERSOLL LOCKS, LTD.,
7-9 *Kingsway, London, W.C.2.—Covent Garden* 1626.
JOSEPH KAYE & SONS, LTD.,
84 *S. Accommodation St., Hunslet, Leeds,* 10.—*Leeds* 20887.
J. LEGGE & CO., LTD.,
Willenhall, Staffs.—Willenhall 333.
ALBERT MARSTON & CO., LTD.,
Wellington Works, North St., Wolverhampton.—Wolverhampton 26051.
JOSIAH PARKES & SONS, LTD. (Union),
Union Works, Willenhall, Staffs.—Willenhall 345.
N. F. RAMSAY & CO., LTD.,
Charlotte Sq., Newcastle-on-Tyne, 1.—*Newcastle-on-Tyne* 24275.
REMPLOY, LTD.,
25 *Buckingham Gate, S.W.1.—Victoria* 6621.
HENRY SQUIRE & SONS, LTD.,
New Invention, Willenhall, Staffs.—Bloxwich 66611/2.
E. TONKS & SONS, LTD. (Etas),
Temple Works, Willenhall, Staffs.—Willenhall 535.
JOHN WORRALL & SONS (Crescent),
Crescent Lock Works, Willenhall, Staffs.—Willenhall 38.
YALE & TOWNE MANUFACTURING CO. (Yale),
Willenhall, Staffs.—Willenhall 145.

The new "Wellington" 5-lever cylinder mortice night latch by Albert Marston & Co. Ltd., adopted by the L.C.C. for entrance doors. Features: The cylinder is claimed to be unpickable; The hot brass pressed bolt with the striking plate and its protective flap (shown on line drawing) prevents any pushing back of the bolt when the door is closed; Door may be closed with lever handle in a locked condition (by the locking snib); Fixing screws pass from a fixing plate (covered by the lever furniture) through the latch to the cylinder.







Facts and Figures

By F. J. BUTTER, Chief Designer, Josiah Parkes and Sons Ltd.

THE number of locks and latches devised for the fastening of doors and other things is probably no greater than the number of different kinds of boots and shoes which have a single main purpose. In both trades, style, quality, construction, size, manufacturers' ideas, public demand and materials used contribute to the extent of the range. To choose the right kind of lock, however, from so many, can be puzzling to those who are not closely associated with the industry. It is the object of this article to say in the allotted space as much as may be for the guidance, it is hoped, of architects and builders, if not others, in the choice of locks for the doors of different kinds of buildings.

Everybody is concerned in the protection of property although it cannot be said that all people are security minded as the police, the Insurance Companies and the lock manufacturers would wish them to be. Complete security, however, cannot be afforded by any lock, whatever its price and excellences. The Bank of England presumably is equipped with the best that money can buy and yet a posse of soldiers is always on duty in the building. No ordinary lock is unpickable though some cause extraordinary trouble. In many cases insufficient care is taken of keys so that it is not difficult for a would-be intruder to get a duplicate made. When the lock is beyond reproach it needs to be properly fixed to a door of suitable construction, strength and fit.

With an exception mentioned later, catches and fastenings other than locks and latches, are outside the scope of this paper and so is lock furniture. There was a good deal of information about handles in a previous issue of this magazine.

The illustrations of several patterns in common use, and certain others, combined with more or less full descriptive captions may make some of the points in the article easier to follow.

Definitions

It is thought that most of the lock terms used will be made clear by explanations in the text and that the following are all which need be given separately.

A follower is that part of a lock which is turned by the handle to withdraw the spring or latch bolt. In several of the illustrations here the front of the follower is seen in which is a square hole to receive the spindle of the handle. A follower may be used to operate a dead bolt but this is infrequent.

The fore-end of a rim or mortice lock is the part through which the bolts protrude and is usually fitted in or flush with the edge of the door.

Backset is the distance from the outer face of the fore-end to the centre of the keyhole, follower hole or both.

The wards in the familiar type of house door key are the cuts in the parallel edges of the key bit, namely, that part which enters the lock to operate the mechanism, Fig. 1. The purpose of the cuts is to clear the projecting wards in the lock case. The steps of a key are the cuts on the other edge of the key bit, namely, the edge most remote from the shank.

A sash ward, Fig. 2, is a combination of wards of solid metal formed of the metal of the keyhole bush and usually capable of many changes. It includes the collar ward which is immediately around the keyhole.

Types

In choosing locks it is most important first of all to select those that function as required and so doors in a building may have to be considered separately. Below are described in their simplest form the four main types of locks and latches. From these as bases spring all varieties, whatever the modifications and additions.

THE LATCH. This has a spring bolt only operated by handles both sides. It is a fastening for the easy and frequent closing and opening of a door without providing any security. It may suffice for the less important doors in a building.

THE DEAD LOCK. A dead lock has a single bolt which is shot and withdrawn by the key from either side. By type it provides the highest degree of security. Being a lock for occasional rather than frequent use it is eminently suitable alone or as an additional lock for the doors of store rooms, warehouses, etc.

THE TWO-BOLT LOCK. This combination of the simple latch and the dead lock is the most useful of all locks for very many purposes. It has a spring bolt withdrawn by handles on both sides, giving all the conveniences of a

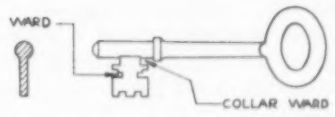


Fig. 1

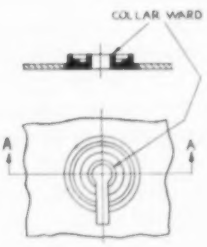


Fig. 2

Facts and Figures

simple latch for the easy and frequent opening and closing of a door, and a dead bolt for regular or occasional operation by the key from either side for security. By reason of the dead bolt a two-bolt mortice lock has all the virtues of a mortice dead lock which is so often recommended for exterior doors. This kind of lock is often fitted on interior doors for which it is excellently suited, enabling the door of a room to be locked and unlocked from either side, which is a great consideration.

The security and privacy provided by a two-bolt lock on interior doors is well worth its slight extra cost over a simple latch. No one can say that there may not arise an emergency when locking a door from inside or outside is of great importance. Moreover, by locking the doors of the rooms in one's house which are unoccupied during the night, and all of them when leaving the house vacant, the thief who breaks into one of those rooms from the outside will find the locked door a check to his progress.

Some municipal bodies specify two-bolt mortice locks for the front doors of council houses. The dead bolt can be shot from inside at bedtime and from outside when leaving the house. By so doing, the door cannot be opened through a broken panel, but a person with a key can open the door from either side. It may be advisable in some instances for the housewife to turn the key from the inside during the day if she is alone in the house and working some distance from the door fitted with a two-bolt lock.

The words "two-bolt" need not be used in a specification as such a lock is supplied if ordered simply as a rim lock or mortice lock.

THE NIGHT LATCH. A night latch has a spring bolt which is withdrawn by a knob inside and key outside. There are millions of pin tumbler rim night latches and a smaller number of other patterns in use all over the world. Their great convenience makes them popular because pulling a door fastens it as a person leaves the house, but opening from the outside requires a key.

The commonly used patterns have limitations in that the bolt can be pushed back by a suitable instrument from outside and the knob can be turned to withdraw the bolt from outside by a hand through a broken panel. Superior patterns without these disadvantages are described later.

Night latches have a thumb slide, push button or the equivalent to hold the bolt in or alternatively to hold it in or out at choice. With the bolt held in, a person going into the garden, for example, without a key, does not risk being locked out should the door become closed. A thumb slide holding the bolt out may give confidence to some people. It has one virtue, namely, that it prevents the pushing back of the bolt, but does not prevent entry if the glass is broken. The most serious objection to it is that it fastens out the legitimate holder of the key, which is wrong in principle.

The cylinder of a rim night latch requires a hole through the door from outside to inside. In the best practice this hole is not circular but shaped to the cylinder, and so prevents the cylinder from being turned in the door by a wrench.

Modifications of the Simple Types

Here are briefly described in general terms some of the variations or modifications of the main types of locks and latches. These have real or supposed conveniences, or it may be that the device takes the fancy of some people.

LATCHES. Some of these have a finger-operated catch or an additional slide bolt which serves as a door bolt for inside use to procure privacy. Such devices should be in the simplest form and their manner of working easily understood, lest children fasten themselves in a room and are unable to get out. Another kind of latch has a clutch bolt, handle operated, to fasten a sliding door.

DEAD LOCKS. Variations from the common form are not many. Perhaps the most usual is to give the plain sliding bolt a double throw, that is, to shoot so far with one turn of the key and as much again with another turn, the total distance being greater than with a single turn of the key. The two throws may be performed with the same key or different keys. A dead lock for a sliding door requires a hook or claw bolt.

TWO-BOLT LOCKS. Some of these, with pin tumbler mechanism particularly, are fitted with a small knob or finger turn inside instead of an inside cylinder to operate the dead bolt. This is partly for convenience and partly to save expense. The arrangement deprives the householder of full protection because the inside turn gives opportunity for withdrawing the dead bolt through a broken panel.

In other two-bolt mortice locks there is a push button in the fore-end by which the outside knob can be put out of action though the inside knob and the key continue to function. Another push button restores the lock to full use.

There are bathroom locks in which a small follower is fitted in place of the keyhole to take the spindle of a knob or finger turn inside the room by which to shoot the dead bolt in order to obtain privacy. An emergency key is provided with some patterns.

NIGHT LATCHES. Superior rim night latches are made with a deadlocking action by means of a key from outside to prevent the turning of the knob and pushing back the bolt. This is of great benefit when leaving the house vacant. In some varieties the deadlocking can be done and undone from outside only, and when done, the door cannot be opened from the inside even by a person who possesses a key. In other patterns, made in mortice style more commonly than rim, the deadlocking and its undoing may be performed by the key from either side.

There is no mechanical means of preventing a spring bolt that is free for operation by an inside knob from being withdrawn by a thief who breaks the glass and puts his hand through the opening, except by some deed which must be deliberately done.

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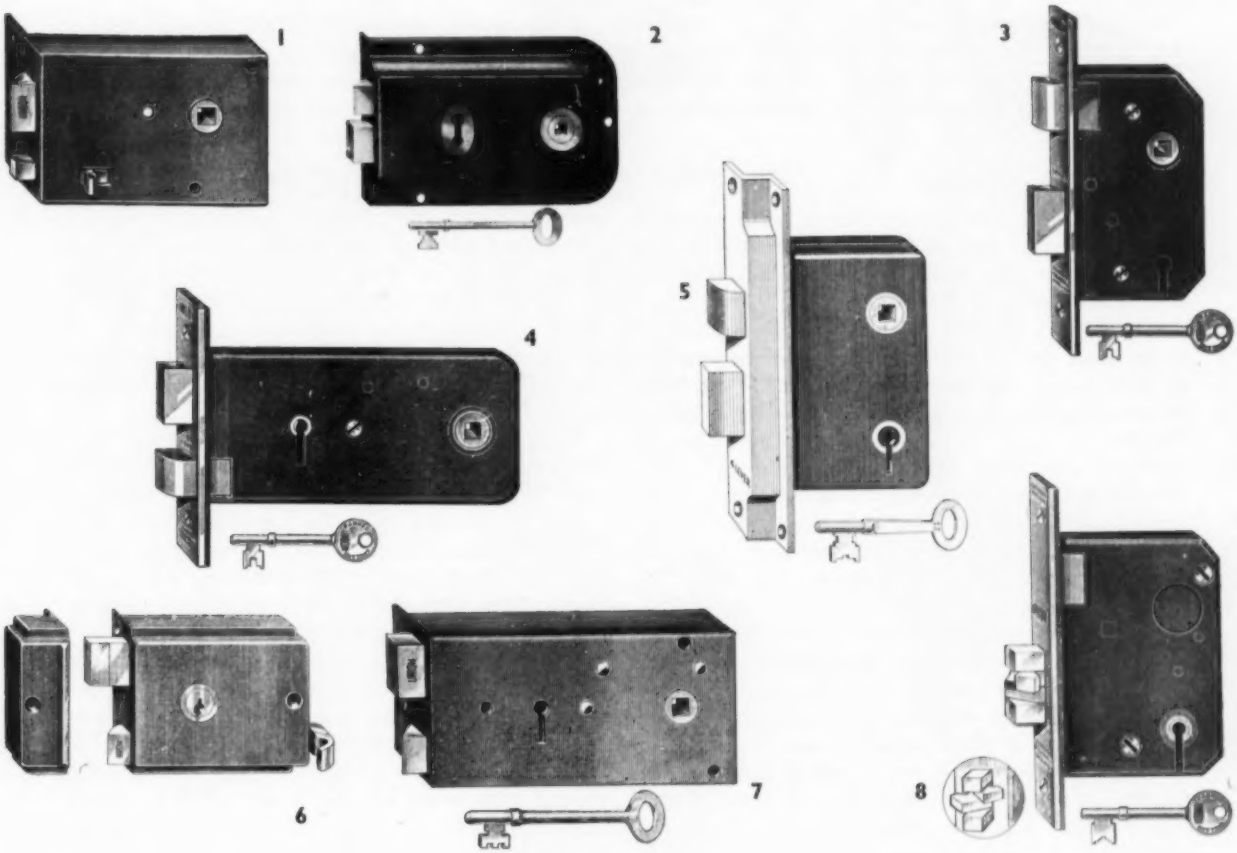
Locks and Latches

TYPICAL EXAMPLES



1

Rim Latch with finger operated slide bolt. Shown as right hand. It turns over end for end for left hand which puts the slide bolt at top. Reversing the bolt makes the latch suitable for a door opening outwards.

2

Rim Lock (two-bolt) Double Hand. The key may be inserted and operated in the normal way for either hand by reason of the double end keyhole and the double hand tumbler mechanism. Shown right hand. It turns over end for end for left hand. Reversing the spring bolt makes the lock suitable for a door opening outwards.

3

Upright or Sash Mortice Lock (two-bolt) of medium quality. It has three levers. Shown as left hand which serves also as right hand reverse bolt for a door opening outwards. Reversing the spring bolt makes it right hand which serves also as left hand reverse bolt.

4

Horizontal Mortice Lock (two-bolt). This illustrates a well-built pattern with three levers. Shown left hand which serves also as right hand reverse bolt for a door opening outwards. Reversing the spring bolt makes the lock right hand which serves also as left hand reverse bolt.

5

Upright or Sash Mortice Lock (two-bolt) of superior quality. Full rebated. It has four levers and sash ward. Left hand which serves also as right hand reverse bolt. The bolt will not reverse to form the other hand. For this pattern the hand required must be stated.

6

Pin Tumbler Rim Drawback Lock (two-bolt). The double throw dead bolt is key operated from either side. When fully drawn in by the key from outside, further turning of the key withdraws the spring bolt which is simply pulled back on the inside. A twist of the handle when pulled back holds the spring bolt in. The cylinder and rose for the outside of the door are fixed with two long screws which are tightened against the back plate when it is screwed to the inner face of the door. Reversing the spring bolt makes the lock suitable for a door opening outwards.

7

Rim Lock (two-bolt) Narrow Case. This is an example of a simple lock with two levers and a sash ward. Right hand. For this pattern the hand required must be stated. Reversing the spring bolt makes the lock suitable for a door opening outwards.

8

Mortice Dead Lock with claw bolt for sliding doors. The lock has four detainers designed for a Master Key System. When unlocked the bolt lies flush with the fore-end. The lock suits single doors or pairs sliding in either direction to open.

Facts and Figures

Other night latches are made with anti-thrust bolts so devised that the bolt is always free for closing the door by slamming but as soon as the bolt of the shut door has shot into the staple or striking plate, it becomes fast against end pressure although it can be withdrawn by a knob or key. Such latches are usually made dead-locking also.

Methods of Fixing

Ignoring some unusual methods of fixing applicable chiefly to certain locks of American manufacture, here are named the three styles of lock construction for the three general methods of fixing:—

Rim locks are the easiest of all to fix. They are screwed to the inside face of the door, the whole of the lock case in elevation and the heads of some or all of the fixing screws being visible whether the door is open or closed. The fore-end of the lock sometimes is extended part way across the edge of the door for additional fixing screws. The staple, into which the bolt shoots to fasten the door, is fixed to the door jamb and therefore is visible at all times and so very frequently are the heads of some or all of its fixing screws. Many rim locks and their staples can be removed from locked doors.

Mortice locks cannot be seen or removed when the door is locked. The body of the lock lies in a mortice cut in the door from the front edge and the lock is fixed by screws through its fore-end which extends beyond the body at top and bottom and lies in a shallow recess in the edge of the door. The bolts shoot into a striking plate which is recessed its own thickness into the door jamb. Other than the lip on which the spring bolt strikes, the striking plate and its fixing screws are concealed when the door is closed. Morticing is the neatest and safest way of fixing a door lock.

Flush fitting. This style of fixing applies particularly to drawer, some cupboard and other cabinet locks which are made in such a way that without morticing they can be recessed into the wood to lie flush with both inside surface and edge. Nothing of the lock is seen when the drawer or door is closed. Flush-fitting house door locks are rarely made, because the cavity in the face of the door reduces its strength too much and tends to make the door twist.

Cupboard locks, straight and cut, usually have a dead bolt shot and withdrawn by the key. Straight means rim style, the whole of the lock projecting from the face of the door to which it is screwed, while cut is flush fitting. Wardrobe locks also are made straight and cut. In addition to a dead bolt these locks have a spring bolt withdrawn by a handle.

Among the many kinds of cupboard catches are those which function as latches, having a spring bolt withdrawn by a turning knob or a push button.

Sizes

The sizes of locks may be considered next, and this question is connected sometimes with the lock furniture.

If the door has a wide middle rail, standard 6in horizontal rim and mortice locks may be fitted, thus allowing key and knob to be a reasonable and convenient distance from the door jamb and from each other. On account of finger space, it is a mistake to fit 5in horizontal locks if 6in can be accommodated.

For narrow rails, horizontal rim locks with narrow cases are made. These measure 5½in or 6in by not more than 2⅞in as a rule and so can be fitted on rails having at least 3in of flat. These narrow rails are not suitable for mortice locks because the mortice cuts away the tenons. Moreover, to make a two-bolt mortice lock narrow enough for a 3in rail and yet robust and secure with differing and suiting possibilities may be regarded as impracticable.

Various patterns of tubular mortice locks with a single bolt deadlocked by the key and a follower to take standard knob furniture have been made without great success.

It is very unusual to use lever handles with horizontal locks but there is nothing functional against the idea.

When the locks must be fitted in the door stile, upright mortice locks, alternatively called sash mortice locks, are those to select. The most popular of several sizes is 3in which can be fitted in a stile finishing rather less than 4in wide. With this lock and smaller sizes—2½in is often required—lever handles should be fitted in order to avoid injury to the user's hand. A distance of 2¼in or more from the door stop to the axis of the handle, which is common on 3½in and larger sash mortice locks, provides reasonably safe finger space if knobs are preferred to lever handles for those sizes.

Many sash mortice locks are made with additional springs to neutralize the weight of unsprung lever handles lying horizontally. With this construction, called for convenience easy action, the bolt spring may be light to enable a door to close easily. This extra spring pressure on the follower in some patterns may make knobs uncomfortably hard to turn.

When the door stile requires a very narrow lock which of necessity will have a short backset, there is sometimes little space on the stop side of the door for the rose or plate carrying the lever handle.

Upright rim locks are not commonly made but some in 2½in and 3in sizes are obtainable.

Some door experts have said that the mortice in soft wood panelled doors with stiles finishing nominally 3¾in × 1⅜in to British Standard No. B.S.459: Part 1, should not exceed $\frac{9}{16}$in in width which suits locks ½in thick. It seems reasonable to conclude that for every additional ⅛in of door thickness the mortice can be increased by $\frac{1}{16}$in in width thus allowing locks with bodies $\frac{5}{8}$in thick to be fitted in 1⅜in doors. In standard flush and certain other doors the mortice may be perhaps wider than suggested above. Very good mortice locks are made with bodies $\frac{5}{8}$in thick. The mortice has to find

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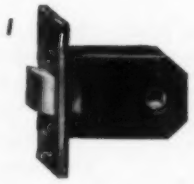
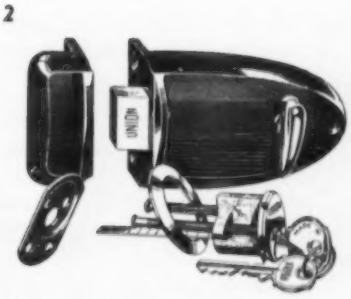
Locks and Latches

1



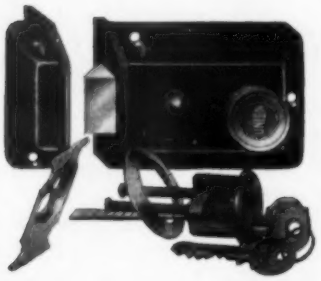
Mortice Latch. A very simple pattern which turns over end for end and back to front to suit any direction of hinged door opening without alteration.

2



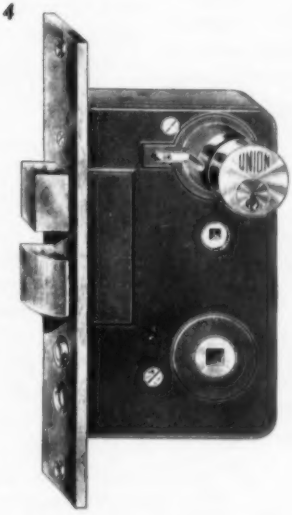
Pin Tumbler Rim Dead Lock. The bolt is shot and withdrawn by knob inside and key outside.

3



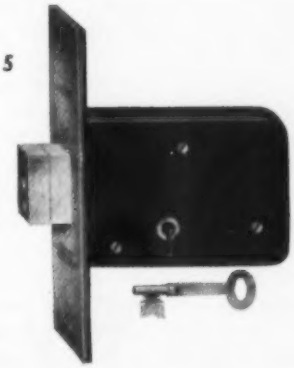
Pin Tumbler Rim Night Latch with thumb slide to hold the bolt in or out. The cylinder and rose for the outside of the door are fixed with the two long screws illustrated which are tightened against the back plate (left) when it is screwed to the inner face of the door. Shown as right hand with the staple at the side. The latch turns over end for end for left hand. Also suitable for a door opening outwards.

4



Upright Pin Tumbler Mortice Lock (two-bolt) with cylinder one side or both. The cylinders are screwed into the lock and clamped in position when the lock is in the mortice. The small follower below the cylinder is for an inside finger turn should this be preferred to an inside cylinder for operating the dead bolt. Pushing the upper button in the fore-end puts the outside knob out of action, which is restored by pushing the lower button. The key draws in the dead bolt if locked and the spring bolt simultaneously, and the spring bolt alone if the dead bolt is not locked. Shown as left hand which serves also as right hand reverse bolt for a door opening outwards. Reversing the spring bolt and follower makes it right hand which serves also as left hand reverse bolt.

5



Mortice Dead Lock: Double Throw: extra strong. With three levers and sash ward. The brass bolt is reinforced with steel inserts. The lock is fixed by four screws and so is the extra long steel striking plate. Mortice dead locks suit any direction of hinged door opening.

Diagrams illustrating a system of master keying

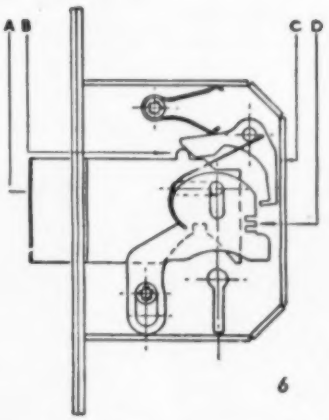
The bolt A when shot cannot be unlocked unless the high point B on it can pass under the end of the crank C. This requires the lifting of the crank but that is prevented at all times when the key is not in use because the lower end of the crank is opposed to the plain edge of the detainers D and cannot move. (Fig. 6.)

The right servant key F lifts the detainers to bring one set of slots E opposite the lower end of the crank C. Then that end can enter the slots Fig. 7 as the high point B on the bolt lifts the other end of the crank while the bolt is being withdrawn by further turning of the key.

The master key operates similarly to the servant key but being stepped differently lifts the detainers differently so that the other set of slots in the detainers lines up with the lower end of the crank.

The same thing in the reverse direction takes place when locking. There is equal security for locking and unlocking.

Non-master-keyed locks under the same system have one slot only in each detainer.



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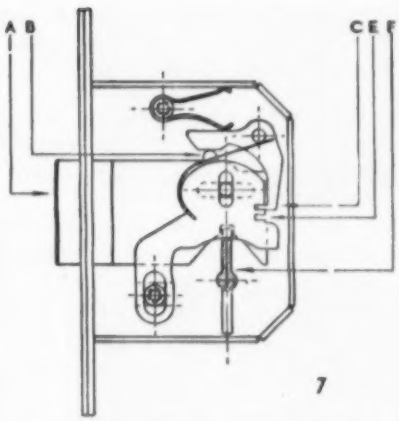

7

Facts and Figures

room for any projecting rivet heads on the case which must be taken as part of the thickness.

Handing

Unlike American and Continental lock makers the English do not ascribe hands to doors but to the locks for them. The hands of the locks for the doors in a building have to be specified at some time, so the rules which have served the trade well for generations are given below.

To determine the hand of a lock for a particular door, the door should be viewed from the outside. If then the lock is for the edge of the door on the viewer's left it is a left hand lock, and vice versa. It is assumed that a rim lock will be fixed as usual on the inside of the door.

If the door is hinged to open inwards, that is, away from the viewer, a normal lock will suit, but if it opens outwards, the order should specify a lock with a reverse bolt. This is not necessary, however, for ordinary mortice locks which, having reversible bolts, suit all ways of hinged door opening, neither for cupboard and wardrobe locks which are always made for doors opening outwards. For rebated and other special mortice locks, hands and opening directions should be stated.

The outside of a door is the exterior side of a door in an interior wall and the corridor side of a room door. The outside of a communicating door is the side on which the knuckles of the hinges are not seen when the door is closed. The outside of a pair of twin doors is the space between them.

When the lock only is being considered it should be viewed with the keyhole the right way up and with that face towards the viewer which would be nearer to him if the lock was fitted to a door which he was viewing from the outside. If then, the bolt or bolts shoot to the left, it is a left hand lock and vice versa.

The handing rules in the casement trade are not the same as in the lock trade. When ordering locks for casements it is safest to say, as may with equal safety be said of doors, that they open clockwise (or anti-clockwise) inwards (or outwards).

Mechanisms

In this paper the word mechanism indicates the means provided to exclude wrong keys from a lock and to make the bolt secure.

The function of keys is to release a bolt from the locked or unlocked position and to withdraw or shoot it out as required. Before a key can reach a bolt it may have to pass one or more wards which are fixed obstructions to prevent a key from entering or turning in a lock unless suitably shaped. Wards may range from a single simple projection in the lock case to an elaborate system of concentric rings for which a key must be intricately cut if it is to correspond closely. The weakness of wards is that the key need not exactly fit the form of the wards. A considerable portion of the key bit in most cases may be cut away to clear the wards amply, thus becoming a skeleton key which passes other locks.

Some locks have one or more projections called bullets at the side or sides of the keyhole and the keys are made with bullets or grooves in the bit. Alternatively, the projections may be on the key to pass through slots in the keyhole.

The bolt-detaining mechanism of which one or more parts must be raised by the key to release the bolt may comprise (a) a single tumbler, (b) one or more levers, (c) several pin tumblers, (d) several disc tumblers.

A tumbler is a kind of catch which must be lifted by the key to release the bolt. It is the simplest sort of detainer, not intended to provide security.

Levers are pivoted plates, superimposed if more than one in a lock, to be lifted simultaneously by the key, each to a given position, to allow a stump on the bolt to pass, Fig. 3. One lever lifted too much or too little can prevent movement of the bolt. A high degree of security is furnished by locks having a number of well-fitted levers. Skeletoning a key is of no avail against levers.

In a cylinder containing pin-tumbler mechanism, Fig. 4, there is fitted eccentrically a rotatable plug in which is cut a keyway. The key enters and turns the plug to withdraw the bolt by means of a connecting bar or other device at the remote end of the plug. The rotation of the plug until the proper key is used is prevented by the pins which usually consist of five sets. Each pin is in two parts, the lower portion which enters the keyhole being called the pin while the upper portion is the roller or driver. Small coil springs press the pins in the direction of the centre of the plug. Each roller is a solid obstruction to the rotation of the plug unless raised so that the joint between roller and pin exactly coincides with the shear line between the plug and the cylinder body. When all five tumblers are so raised by the proper key the plug is free to rotate when the key is turned. The overlifting or

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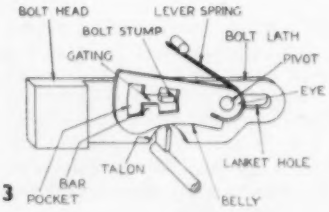
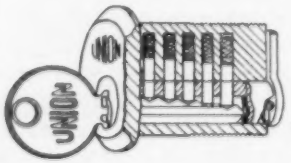


Lever Mechanism

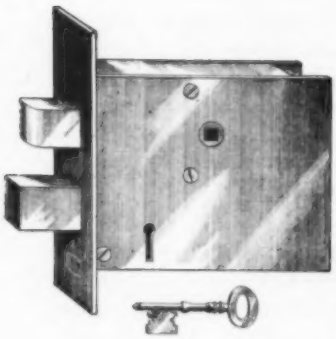
3



Pin-tumbler Mechanism

4

Mortice and Rim Locks



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1. *Union Gate Lock No. 2405, made by Josiah Parkes & Sons Ltd. Mechanism: sash ward tumbler.*

2. *Mortice Lock No. 3J33 with roller bolt, by Chubb & Son's Lock & Safe Co. Ltd. Single throw dead bolt. Roller operated by follower from both sides of the door.*

3. *This Two-Keyhole Lock No. L194, made by James Gibbons Ltd., is designed for Banks, Hotels, Asylums, Schools, Factories, Hospitals and buildings where absolute security is required. Locks are made for differing and mastership. Steel case with brass levers, fore-end and bolts and long wearing recessed follow.*

4. *Etas No. 1208 mortice lock for nurses' bedrooms, made by E. Tonks & Sons Ltd. Can be locked on inside by slide bolt, but can be opened from outside by master key.*

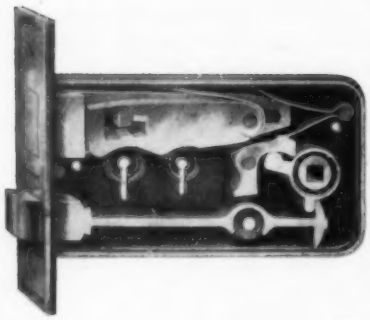
2

5. *Cell Lock No. L949, made by James Gibbons Ltd. As soon as the stud comes into contact with the door jamb the bolt is automatically released thereby locking the door. The handle works independently of the bolt so that the door can be opened only by use of the key.*

6. *Rim Lock, Type 30FH, made by Hobbs, Hart & Co. Ltd. and designed for Hotels with 75 bedrooms or fewer. All with different keys up to 75 changes. To open from outside with key and inside by knob.*

7. *Moulded case upright rimlock in brass or bronze. Made by N. F. Ramsay & Co. Ltd.—No. 148.*

8. *Upright brass mortice lock No. 360, made by N. F. Ramsay & Co. Ltd. Fitted with two coil springs, one acting as latch bolt allowing door to close gently and the other operating on follower and ensuring firm action when handles are used.*



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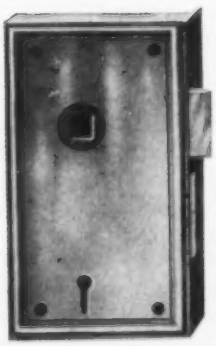
9. *Etas No. 402 Long shoot mortice dead lock, made by E. Tonks & Sons Ltd. Approved by insurance companies for lock-up shops.*

10. *Rim Lock by N. F. Ramsay & Co. Ltd. (No. 155) is suitable for bedrooms or cubicles. The latch bolt is operated by knobs from either side in the usual way but can be locked from the inside by small knob or slide bolt. It can be unlocked by key from outside in case of emergency.*

11. *Moulded Edge Rim Lock No. 164, made by N. F. Ramsay & Co. Ltd. Overall size 6½in × 3½in, in brass, bronze or white metal.*



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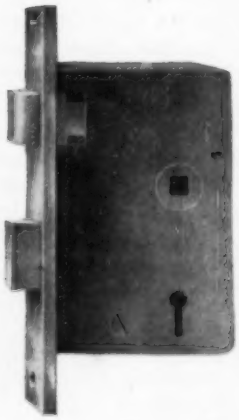

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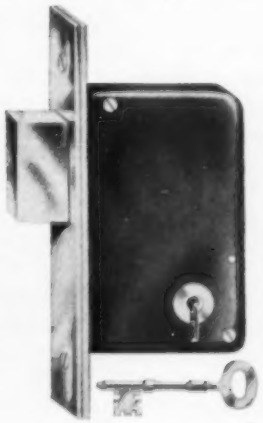

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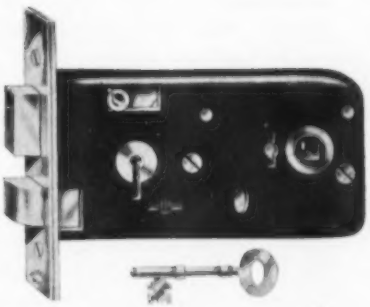

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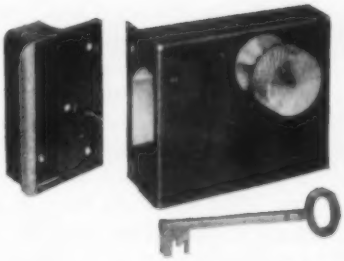

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Facts and Figures

underlifting of a single pin to a small degree can prevent rotation. Many thousands of different pin tumbler locks can be supplied.

Disc tumbler mechanism, having certain similarities to pin tumbler mechanism, is confined largely to special purpose locks and no more need be said here.

Key Control

Most locks are made to differ in economical quantities which may be called standard stock differs and that is how they are supplied to the merchants and ironmongers. The number can usually be increased at a small extra charge. It is not possible here to give precise figures of differs which vary with the quality and mechanism of the locks and range from one dozen or fewer in the cheaper patterns to many thousands in the superior kinds.

Unless a house is occupied by different families, it is rarely necessary for all the locks to differ. It is often better and more convenient to provide all the exterior doors, including the garage, with equal security of high degree in lock mechanism under one key, which is called a pass key, and to put the interior doors under another pass key.

The usual arrangement for the locks of public and other large buildings is to make them under a master or grandmaster key which is held by the general manager or other chief official. In the simplest arrangement there will be a number of locks to differ with servant keys to differ and a master key to operate them all. In another scheme the locks are divided into subsuites for the different departments in a building, each with a number of servant keys to differ under a submaster key. The submaster keys, all different, are held by the heads of the departments, and the man at the top has a grandmaster key giving him full control. In a variation from this arrangement some or all of the different keys in the installation may operate a common lock, such as on the entrance door to a block of flats.

Locks of different kinds, such as mortice, rim, cabinet and padlocks can be included in the same suite if they are alike in mechanism and have keys to correspond.

In some constructions of locks, more differs can be provided, paradoxical though the truth seems, on three levers than on four and again on four levers than on six, other things being equal. This condition applies only to locks which have keys stepped symmetrically for operation from either side. It has been found advantageous for differing to omit certain levers which are duplicates of others in the same lock and use the space gained thereby for a specially formed bolt. As a result, wards can be dispensed with to a greater extent than otherwise. Several of the locks illustrated are made in this way.

Actions

To suit the different sizes, constructions and qualities of locks and latches, there are required many different actions to enable a handle when turned to draw in the spring bolt. Details may not be of interest to the readers of this article and one remark only in this connection is made. The sliding spring bolt of an ordinary lock or latch, which fastens a door by its flat face against the metal of the striking plate and is withdrawn by a handle, is more silent as a rule, and more positive in operation, than a push-and-pull catch.

Finishes

There are various finishes on lock cases and those fittings which are parts of the lock as distinct from lock furniture, which is a separate product, not discussed here.

The usual finish for rim and mortice lock cases is black enamel, bright or semi-dull, for indoor use where it has a reasonably long life. Locks for outdoor conditions require special treatment about which there is a clause in the new British Standard No. B.S. 2088. Parts such as the fore-ends of mortice locks which are solid brass or bronze may be supplied sanded, satin, polished or otherwise finished to match the furniture. The original finish may disappear after cleaning but the solid metal remains. Some mortice lock fore-ends get painted immediately after fixing.

Among the attractive and lasting electro-deposited finishes are chrome, nickel and florentine bronze. Zinc plating is more for protection than appearance. There are coloured enamel and other superimposed finishes for the purpose of giving the effect of a more precious metal on an inferior one. With careful treatment they last a considerable time indoors.

As a rule, locks get little external cleaning nor do they need it beyond regular dusting with a soft cloth. Little more should be done to the fronts of cylinders and their surrounding roses because it is most important that cleaning materials should not get in the keyhole. Not in any circumstances must a proprietary metal polish, harsh abrasive cleaners or emery cloth be used on any superimposed finish.

British Standards

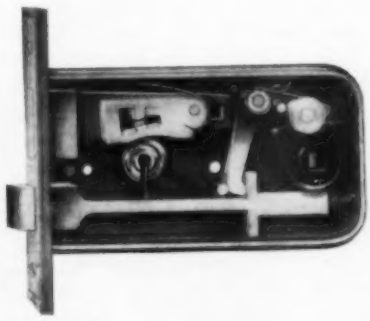
It has been proved that a supply of locks of good quality cannot be ensured by a verbal specification. The locks when delivered may literally fulfil the terms of the order yet be a poor lot, ill-fitting, of low security and short life. For this reason the British Lock and Latch Manufacturers' Association has drawn up a specification to cover the quality of workmanship, performance, strength and durability of locks and latches for certain purposes. Testing apparatus has been devised and put on trial. The specification has been accepted by the British Standards Institution and recently published under No. B.S. 2088: 1954. It is hoped that when this is generally adopted buyers will get assurance of quality from the marks on the locks. In the meantime architects and builders may wish to form their opinions by the inspection of samples.

[Continued on page 672

Miscellaneous Locks and Latches

SELECTED EXAMPLES

1. *Mortice lock No. 237 made by N. F. Ramsay & Co. Ltd., suitable for right- or left-hand doors.*
2. *Etas No. 2014 mortice sliding door lock made by E. Tonks & Sons Ltd., 2 or 4 lever with circular brass bolt.*
3. *This cylinder Mortice Nightlatch is made by The Yale & Towne Manufacturing Co., and supplied by Stedall & Co. Ltd., as their No. 6025, and other ironmongers. It has an art black case and bronze striking plate and cylinder. It is reversible and can also be supplied full and half rebated.*
4. *The RF10 Rim automatic deadlock by Ingersoll Locks Ltd., has a 10-lever cylinder key mechanism which provides key operation from both ends of the cylinder of all ten levers.*
5. *Typical of the American development in locks is this "B" type made by Schlage Lock Co. of San Francisco, U.S.A. Installation is simple as only two holes have to be bored.*
6. *No. 24 Geared Motion Latch by The Erebus Mfg. Co. Ltd.*
7. *This Springlatch is made by The Yale & Towne Manufacturing Co. and supplied by Stedall & Co. Ltd. as their No. 99, and other ironmongers. It has a cast iron case. Size 3⅝in x 2 9/16in x 1in. Operation: key outside, knob inside. Bolt may be deadlocked or held back.*
8. *Union Desk Lock No. 42004 by Josiah Parkes & Sons Ltd.—Nozzle: 4-pin Tumbler cylinder. Nozzle projection may be varied.*
9. *The new "Remlock" night latch by Remploy Ltd. embodies the use of the constant mesh cam and trap principle. There are only three moving components. The bolt has three positions:—(i) Fully withdrawn and held by means of a hold-back plunger. (ii) Intermediate position which the lock takes up on release from (i) with the bolt projecting half an inch (iii) When the door is closed the bolt assumes a "fully shot" position and the projection is a full inch giving a positive deadlock, inherent in the cam and trap mechanism. The internal knob can be locked if the key is inserted in it and given a quarter turn before closing the door. The knob cannot be turned until the key is given the necessary quarter turn back again.*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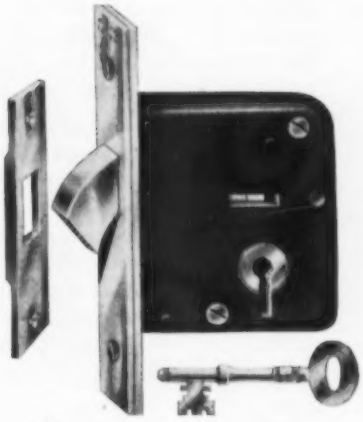
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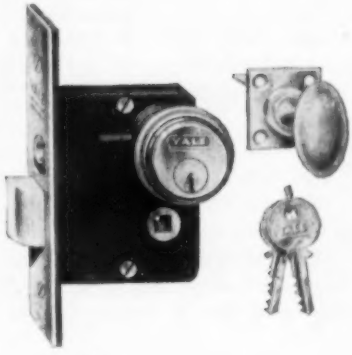
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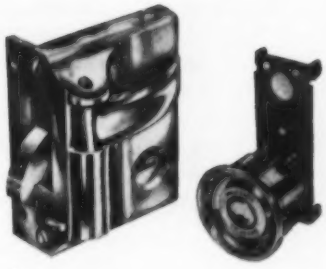
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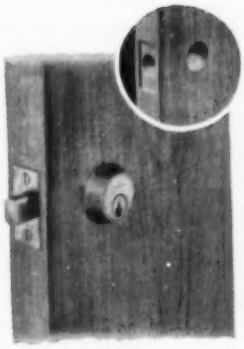
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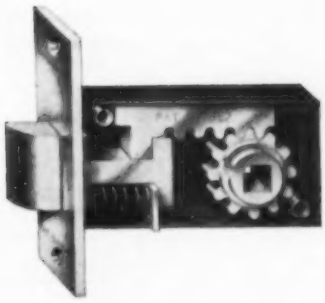
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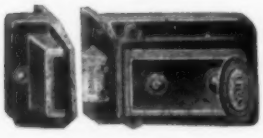
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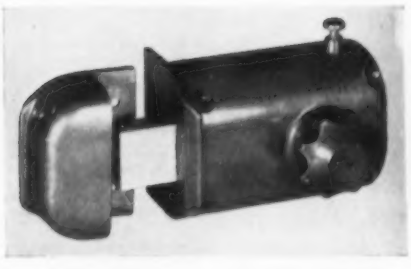
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Facts and Figures

It may be said here that another British Standard applying to locks, No. B.S. 455: 1945, which is under revision, gives dimensions only of some locks of the cheaper varieties.

Recommendations

It is impossible within reasonable bounds to name the numerous patterns made by manufacturers which would be suitable locks for particular doors. To recommend certain patterns only, would not make allowance for individual preferences and ideas and besides might be regarded as invidious treatment. In the circumstances, the table which follows has been compiled to show the different doors of different buildings with suggestions by price and weight, which constitute an approximate guide to quality, of various types of locks from which to choose.

Padlocks are not included. They have many uses and can be made *en suite* with other locks but generally speaking fixed locks are more convenient and free from the risk of being mislaid.

It is not necessarily right to assume that council houses, because they are some of the cheapest buildings, should be fitted with the cheapest locks, for on those houses the locks often are subjected to hard wear and severe treatment. Because cheap locks are produced it does not follow that the manufacturers recommend them. Double hand rim locks are extensively used but as security fasteners for exterior doors they are utterly inadequate. Exterior doors in particular should be equipped with locks giving a high degree of protection. Moreover, as locks are expected by some people to last as long as the house, often without lubrication or other attention, there is this argument for fitting durable locks.

The "Sterdy" Electric Lock No. C2391/2 by W. C. Davey & Co. Ltd. is designed for releasing and locking doors from a remote position and can be used for right- or left-hand doors. The lock can be fitted into the existing mortice when replacing a mortice deadlock. With the locking mechanism in normal position the roller catch works in the usual way as a spring loaded roller catch. On pressing the "Lock" push the locking mechanism obstructs the free movement of the roller catch which then acts as a dead bolt. Pressing the "Open" push restores mechanism to normal and door can be opened.

Table of recommended locks for particular doors

	COUNCIL HOUSES, SAY £1,800			VILLAS, SAY £3,000			LARGE HOUSES, SAY £10,000			PUBLIC BUILDINGS, FACTORIES, SCHOOLS, ETC.		
		Price each	Wt. lb each		Price each	Wt lb each		Price each	Wt lb each		Price each	Wt lb each
FRONT DOOR A	Mortice Lock, Lever or Rim Night Latch Pin Tumbler Anti-thrust and Dead-locking or Mortice Latch and Rim Dead Lock Pin Tumbler E	9/6 14/3 17/3	1.3 1.5 2.2	Mortice Lock, Lever or Rim Night Latch Pin Tumbler Anti-thrust and Dead-locking or Mortice Latch and Rim Dead Lock Pin Tumbler E	9/6 14/3 20/9	1.3 1.5 2.5	Mortice Lock Pin Tumbler Superior	49/6	2.7	Master Key System Mortice Lock D	27/-	1.6
BACK DOOR B	Mortice Lock, Lever or Mortice Latch and Rim Dead Lock Pin Tumbler E	9/6 17/3	1.3 2.2	Mortice Lock, Lever or Mortice Latch and Rim Dead Lock Pin Tumbler E	9/6 20/9	1.3 2.5	Mortice Latch and Mortice Dead Lock Pin Tumbler E	44/3	2.9	Master Key System Mortice Lock D	27/-	1.6
INTERIOR DOORS GRND. FLOOR	Mortice Lock, Lever	4/9	0.9	Mortice Lock, Lever	9/6	1.3	Mortice Lock, Lever	9/6	1.3	Master Key System Mortice Lock D	27/-	1.6
BEDROOMS	Mortice Latch	2/6	0.5	Mortice Lock, Lever	9/6	1.3	Mortice Lock, Lever	9/6	1.3	Master Key System, Mortice Lock D	27/-	1.6
BATHROOM	Bathroom Lock	4/9	0.9	Mortice Lock, Lever	9/6	1.3	Mortice Lock, Lever	9/6	1.3	Master Key System Mortice Lock D	27/-	1.6
GARAGE C	Mortice Lock, Lever or Rim Dead Lock Pin Tumbler	9/6 14/-	1.3 1.6	Mortice Lock, Lever or Rim Dead Lock Pin Tumbler	9/6 22/6	1.3 2.0	Mortice Lock Pin Tumbler	22/6	2.0	Master Key System Mortice Lock D	27/-	1.6
OUTHOUSE	Rim Dead Lock, Lever	8/3	2.0	Rim Dead Lock, Lever	8/3	2.0	Rim Dead Lock, Lever	8/3	2.0	Master Key System, Mortice Lock D	27/-	1.6
FRENCH WINDOW	Mortice Lock, Lever	9/6	1.3	Mortice Lock, Lever	9/6	1.3	Mortice Lock, Lever	9/6	1.3	Master Key System, Mortice Lock D	27/-	1.6
BUILT-IN CUPBOARDS	Cupboard Catch	4/6	0.2	Straight Wardrobe Lever	6/-	0.3	Cut Wardrobe Lock, Lever	15/-	0.5	Cut Wardrobe Lock, Lever	15/-	0.5

A.B.C. to pass.
D. to differ under Master Key
E. Separate latch and lock.

FURTHER EXAMPLES

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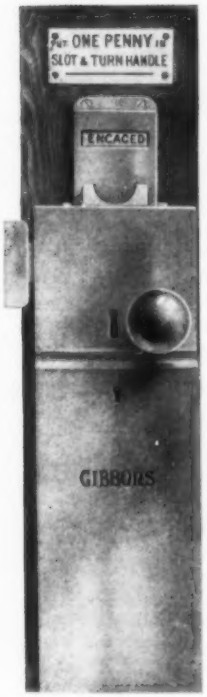

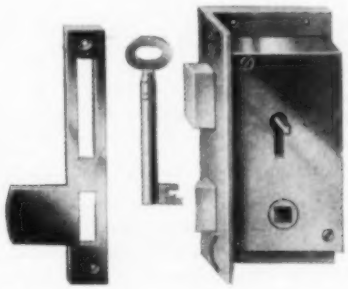

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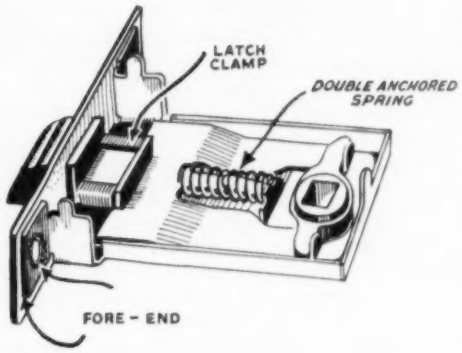

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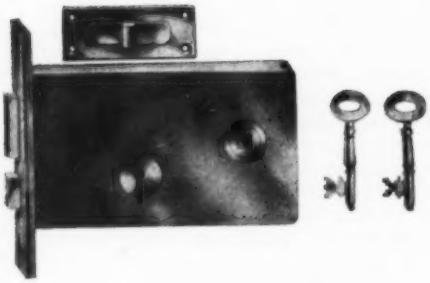

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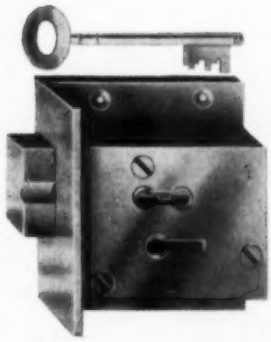

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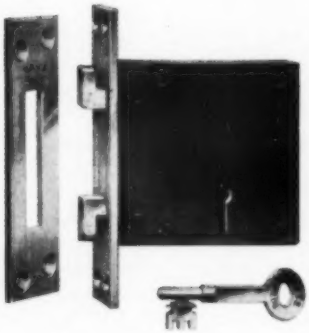

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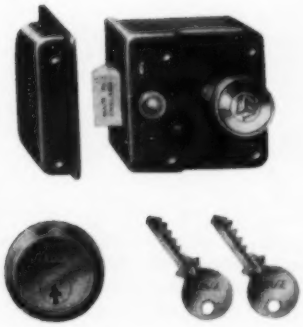

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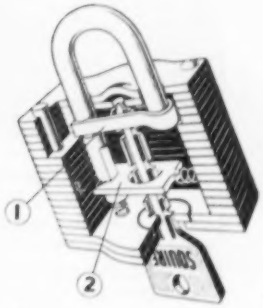

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1. The B.1080 Automatic Lock and Indicating Bolt is made by James Gibbons Ltd. The case and mechanism are of gunmetal. The cover plate is in two portions, the lower giving access to the till box and the upper covering the mechanism. Can also be supplied with coin counting device.

2. Etas brass wardrobe lock No. C.427, made by E. Tonks & Sons Ltd.—size 3½in.

3. The "Asro" Mortice Latch made by Ash & Rogers Ltd. has body cadmium plated inside and outside with bronze plated fore-end. There are no interior rivets and the guided spring is an "Asro" patent. Available in 2½in and 3in sizes.

4. 3-lever mortice lock No. 337 for hotel bedrooms, made by N. F. Ramsay & Co. Ltd. Slide on inside of door operates bolt which can be opened only from outside by master key.

5. Etas brass safe lock No. C.471, made by E. Tonks & Sons Ltd.—size 3in x 2⅜in.

6. Sliding door lock No. 23—one of several made by Joseph Kaye & Sons Ltd.

7. Cylinder rim night latch No. 72 for narrow stiles, made by J. Legge & Co. Ltd.

8. Brass Till or Drawer lock No. L.539, made by James Gibbons Ltd.

9. Diagram of mechanism standard to "Stronglocks" Nos. 24, 26 and 28 by Henry Squire & Sons Ltd. (1) Shackle locked by "U" spring. (2) Shackle locked again by pilfer bolt. Key must open both "U" spring and pilfer bolt simultaneously before shackle is free. Pilfer bolt prevents filing off the key wards to obtain a "skeleton key" to "pass" all padlocks and stops the effect of wire picks.

The Insurance Lock

A note by R. S. PRICE, A.C.I.I., Chairman of The Association of Burglary Insurance Surveyors

THE term "Insurance Lock" is one frequently used these days by retailers in the lock trade to describe a lock which they consider meets with the requirements of Insurance Companies and members of the public must surely wonder what those requirements are. It is probably no exaggeration to say that the question of security is not paramount in the mind of the average person when he sets out to buy a lock, and more attention is paid to such matters as appearance, cost and convenience. Insurance Companies on the other hand are concerned solely with security and there is no doubt that the public would be saved a considerable sum of money and inconvenience if Architects and Builders concerned with the erection of new property would bear this in mind, and offer appropriate advice to their clients at the right time.

Consultation at the Planning Stage

It must be very annoying and difficult for the owner of new premises to understand when he is told by his Insurance Company's Surveyor that the locks already fitted do not offer adequate security for the protection of the property to be insured. Previous consultation by the Architect at the planning stage with the Insurance Company's Surveyor would eliminate this wastage of money. In the same way it would be helpful if Builders when requested to fit locks for security purposes were to suggest to their clients that they should first ascertain if the locks selected meet with their Insurer's approval.

It is probably not generally known that Insurance Companies employ their own experienced Surveyors to inspect premises before burglary cover is granted, and the particular rate of premium charged is based to some extent on the adequacy of the protection disclosed by their reports. All too often the services of these experts are called in too late and needless additional expense is incurred.

Choice of Locks

In deciding upon the quality and type of locks required for a particular premises, it is necessary to give consideration to such factors as the nature of the stock contained therein, the construction of the building and its situation, with particular regard to the degree of burglary risk in the neighbourhood.

It is probably generally known that Insurance Companies prefer the fitting of mortice deadlocks as offering greater resistance to forcing. In view, however, of the improved technique of thieves, the following standard with regard to this particular type of lock is now required:—

Mortice Deadlocks

1. The lock to be of lever mechanism with not less than 5-levers closely gated to defeat the use of false keys.
2. The bolt to be of steel or reinforced gunmetal with an adequate single throw, generally speaking not less than ⅝in.
3. The lock to be of robust construction and the steel striking plate used in conjunction therewith to be 10in × 1½in × ⅛in, with staggered screw holes.

Particular attention is drawn to the fact that to obtain the full measure of security afforded by this type of lock, the door should not be less than 2in thick with a 3in stile.

Locking Bars and Padlocks

This is a very popular type of fitting for industrial and commercial premises and the quality of the locking bar and eye should conform to the following specification:—

1. The locking bar should be a drop forging, or a fully malleable casting, not less than ¼in thick × 2½in section.
2. The knuckle pin to be welded to prevent its being punched through.
3. The eye to be case-hardened.
4. The locking bar and eye to be fixed with concealed screws and coach bolts.

In connection with this type of fitting, it should be noted that there are different patterns of locking bars available for single and double leaf doors, and to obtain maximum security the appropriate type should be used.

With regard to padlocks, Insurance Companies have very definite views in regard to their quality and the following specification would, in most cases, meet with their requirements.

Padlocks

1. The padlock to be close shackle and the shackle to be case-hardened pivoted on a pin which cannot be punched through.
2. The lock to be of lever mechanism and to incorporate not less than 4-levers.
3. The body to be not less than 2½in in width and should not be cast.

In general it is possible to form a fair assessment of a good 2½in close shackle padlock from its weight which should be in the region of 1¾lb.

Residential Premises

It will be appreciated that different considerations arise with regard to locks required for private houses and flats and, generally speaking, some form of latch is preferred for convenience. There are one or two automatic dead-locking rim latches and 5- or 6-lever locking latches now on the market which, provided they are properly used by the occupier, have many advantages in so far as security is concerned over the simple night latch.

The "Battleship" padlock No. IK11 and bar No. 7005 are made by Chubb & Son's Lock and Safe Co. Ltd. The padlock is made from a solid steel drop forged case and cap and the shackle is of case-hardened steel. This lock is recommended by insurance companies. The bar, made from malleable iron, is suitable for doors 1½in to 2¾in thick.

THAT INDUSTRIAL DEVELOPMENT CERTIFICATE

WHEN it comes to a question of building, an industrialist is usually in a hurry. Perhaps I am making an understatement when I merely say in a hurry. He is more often than not in a dickens of a hurry. He may have taken quite a while to make up his mind to build, but once this has been made up he expects things to happen. He is not always quite certain what should happen next, but until he sees his factory or extension beginning to materialize in the form of bricks and mortar, nothing, so he believes, is happening.

Whilst I can readily understand that time means money to an industrialist, what he does not appear to appreciate is that too much hurry may lead to loss of money in the long run.

Take a look around many of our smaller provincial towns and it is all too obvious that in the majority of cases extensions to industrial premises have not been designed by architects. This is also unfortunately true of some of the totally new industrial buildings. A builder, in conjunction with a draughtsman in the office, has knocked up a plan. Not only does the building look as though this was the case but the circulation has not received the consideration it should. This is detrimental to the amenities of our charming smaller towns and also to the architects trying to earn a living in them. I know of a number of young architects living in some of these towns, where the majority of the work is of a domestic character, who would welcome the opportunity to display to the smaller industrialist their skill in designing even an extension. It pays from an efficiency point of view and acts as an advertisement to an architect.

Why is there this reluctance to employ an architect? The reasons given are varied and often vague but the most common are that it is a waste of money, a waste of valuable time and, well, architects are so unbusinesslike. I do not feel that there is any need for me to refute these reasons as I feel sure that it will be agreed that the first two, at least, are not founded on fact, and as far as the last criticism is concerned, many architects' offices, I venture to say, are run more efficiently than some of the smaller industrial concerns.

If you are, however, fortunate enough to be commissioned to prepare plans for an industrial concern—watch your step, as any delay, whether you are responsible or not, will be automatically blamed on you, the architect.

I have found from personal experience that the majority of young architects fully appreciate that they must obtain byelaw and planning approval, but all too few realize that a certificate from the Board of Trade is required if the new building or an extension to an existing industrial building exceeds 5,000 square feet. A planning authority cannot consider a planning application unless it is accompanied by a certificate. All too often the architect submits his plans to the planning authority with a request that they be dealt with as expeditiously as possible because the industrialist is anxious to commence building at the earliest possible moment. A polite reply is given explaining that the plans cannot be considered until the Board of Trade certificate is obtained and submitted to the authority. More delay; unnecessary delay. The industrialist blames the architect for the hold-up and accuses him of not knowing his job.

The majority of architects, if they have a commission of any magnitude, apply to the planning authority for planning permission in principle and I would suggest that the certificate from the Board of Trade should have been applied for previous to this preliminary application and submitted with the form of application.

You may quite rightly state that it is not the function of the architect to obtain an Industrial Development Certificate on behalf of the industrialist and in this respect I would agree with you. The information required for submission before the certificate may be obtained covers the nature of the company's activities and their proposed new activities, about which the architect will not be so well informed as the developer himself. No drawings are required to be submitted to substantiate the application for a certificate and I would be inclined to take the view that the architect has fulfilled his function if he draws the attention of the client to the necessity for a certificate and stresses the fact that he cannot, as his architect, apply for planning permission without, in the necessary cases, this Industrial Development Certificate.

When you point out to your client the necessity for a certificate, you may desire to state in your letter that if he supplies you with the required information, which is not within your province, you will be pleased to apply for a certificate on his behalf.

Why is a Board of Trade Certificate necessary? In 1945 the Government then in power introduced the "Distribution of Industries Act, 1945," for the purpose of securing the proper distribution of industry on a country-wide basis. Unless, therefore, the Board of Trade was informed and gave its approval to new industries the purpose of the Act could not be achieved.

As every building has to receive the approval of the local planning authority, it was made an obligation, under the 1947 Planning Acts, that they should not consider plans for certain industrial buildings unless a certificate from the Board of Trade was submitted with the application.

What is an industrial building appears to be a question which baffles some architects? If you are in doubt I would suggest you obtain a copy of the Distribution of Industries Act, 1945. You will note that under Section 15 (1) of that Act, an industrial building is defined as "a building used or designed or suitable for use for the carrying on of any industrial process." This definition is, I feel you will agree, nearly all-embracing. There are, however, certain exemptions and they are —first, any industrial building which, in England, has a *floor space* not exceeding 5,000 square feet and in Scotland *covers an area* of not more than 5,000 square feet; and secondly, any building of a class specified by the Board of Trade for the purpose.

On the face of it these two exemptions appear clear and specific but for some reason, I presume appreciated only by the legal profession, when a figure such as the 5,000 square feet already mentioned is introduced into an Act it raises all manner of complications. I will therefore try to deal with the more common queries that are raised in connection with this figure of 5,000 square feet.

As there is a difference in wording in the Town & Country Planning Act, 1947, and the Town & Country Planning (Scotland) Act, 1947, I will try to explain the differences in each case for the benefit of readers in both countries.

Under the English Act no certificate is required when the floor space of each individual and completely separate building comprised in a given development does not exceed 5,000 square feet. If, however, a building covered an area at ground level or below of slightly less than 5,000 square feet and was a number of storeys high, then a certificate would be necessary as the floor space of the building would be over 5,000 square feet and it is the measurement of floor space that is relevant.

Under the Scottish Act no certificate is required when the area covered by each individual and completely separate building comprised in a given development is not more than 5,000 square feet.

In that respect the English and Scottish Acts are not in agreement but the Town & Country Planning (Erec-

tion of Industrial Buildings) (Scotland) Regulations, 1949, with all respects to the draughtsmen of the Regulations, make confusion worse confounded. I have had the position most carefully explained to me by an officer of the Board of Trade, but owing to the difficult way in which the Regulations are framed (with the idea, I presume, of leaving no loop-holes) I am still in a rather hazy position. I find that the easiest way to grasp a rather complicated section of an Act or Regulation such as this is to read it through slowly until you have searched out the implications of the various points together, and then try to visualize a situation to which they could be applied. Sometimes I doubt if a situation could be found to fit some of the points raised in Acts of Parliament. We should not, however, blame the legal draughtsmen; they are only trying to see that no loop-holes are left that will give the unscrupulous an opportunity to use them for their own gain, or for such gentlemen as Desmond Heap to use as examples upon which to base an article. I doubt, however, if even Mr. Heap can find a loop-hole in these Regulations which, in non-legal language, are as follows:—

The Industrial Development Certificate is not required (in Scotland) in the case of a proposed extension if, first, the building together with the proposed and any other extension will cover an area of more than 5,000 square feet, *and* the sum of its floor space and that of the extension will exceed 5,000 square feet, *and* not more than 5,000 square feet of this total floor space will be taken up by the sum of the floor spaces of the proposed extension and of all other extensions carried out within a period of three years ending on the date of the application for planning permission for the proposed extension.

You have read that passage twice and I have the feeling that you have not quite grasped its implications. If you have I wish to offer you my congratulations and would suggest that you are wasting your time as an architect and should look for what I am informed is a more lucrative profession, namely the Law! If, however, you did not grasp it you and I are in a like position.

I heard it told that when the Town & Country Planning Bill, 1954, on the Control of the Use of Land was being debated in Committee, this complicated legislation brought forth requests for explanations from the Ministers concerned who, trying not to read from their briefs, gave involved explanations interspersed with, "Let me put it this way" or "Perhaps another example will help." I shall therefore try to do the same. But I may, like the Ministers of the Crown, find myself in deeper water.

If you, as an architect to an industrialist, apply for planning permission in respect of an extension with a floor space not exceeding 5,000 square feet, no Industrial Development Certificate will be necessary if the floor space of the proposed extension, together with the floor space of all other extensions to the building carried out within a period of three years, ending on the date of the planning application, does not exceed 5,000 square feet.

I hope that last sentence makes it perfectly clear. If it does not, however, the only suggestion I have to make is that you apply to the Board of Trade for an opinion on your particular case—but please do not forget that the rather complicated piece of legal machinery which I have just been explaining applies only to Scotland.

Similar provisions do apply in England. Like Scotland, there was a Town & Country Planning (Erection of Industrial Buildings) Regulations, 1949, which state that a Board of Trade Certificate is not required in the case of a proposed extension if the sum of the floor spaces of the original building and of the extension exceeds 5,000 square feet and not more than 5,000 square feet of this total will be taken up by the sum of the floor spaces of the proposed extension and of all other extensions carried out within a period of three years ending on the date of the application for planning permission for the proposed extension.

To make this rather legal jargon clearer let me put it this way. If a developer applies for planning permission in respect of an extension with a floor space not exceeding 5,000 square feet no Industrial Development Certificate will be necessary if the floor space of the proposed extension, together with the floor space of all other extensions to the building carried out within a period of three years ending on the date of planning permission, does not exceed 5,000 square feet.

You will note that I have made a special point of the fact that all the measurements of extensions are of floor space. You may ask wherein lies the difference between the English and Scottish regulations. There is a subtle difference in wording but if your work is confined to one particular side of the Border, please ignore what I have written for your fellow architect struggling to make a living under different but equally complicated enactments.

I wonder if we will ever get back to the pre-war days when, if you desired even to build a factory, there were few regulations to worry about and you got ahead with the job with the least possible delay. We can always hope and in the meantime struggle along with the regulations which we have.

I cannot, however, do better than end this article by emphasizing the fact that early on in the construction of your industrial project you should apply for a Board of Trade Certificate so that you are not held up by the Planning Authority, when your application is submitted for its approval, through lack of this vital piece of paper.

M. E. TAYLOR, A.R.I.B.A.

Scots Model Byelaws

Over 100 local authorities have now adopted the new model building byelaws which were issued by the Department of Health for Scotland in January, and which, if adopted generally, would help to reduce costs and speed up building in Scotland.

But many authorities have still to reach a decision, and the Department of Health points out that if a builder is operating in several local authorities' areas, and they have not all adopted the new byelaws, he has to struggle with a variety of specifications.

The general adoption of the new byelaws, which were produced by a committee of experts, would overcome these difficulties.

The authorities who have adopted the byelaws include 13 large burghs and 15 counties as well as 74 small burghs. The counties are Aberdeen, Angus, Ayrshire, Berwickshire, Bute, Caithness, Dumfries, East Lothian, Inverness, Kincardine, Kirkcudbright, Midlothian, Moray, Nairn and Roxburgh.

The large burghs are Arbroath, Ayr, Coatbridge, Dunfermline, Dumbarton, Dumfries, Greenock, Hamilton, Inverness, Kilmarnock, Paisley, Perth and Port Glasgow.

Seven large burghs and 18 counties are among those still to adopt the byelaws. But a substantial number of authorities who have not yet officially notified the Department of Health of their intentions are understood to have made up their minds to do so. It takes some time for each authority to consider how the new model byelaws fit in to local conditions.

The four large cities are in a special position as they all have their own local Acts for, among other things, regulating buildings. The model byelaws are drawn up in terms of powers in general legislation, e.g., the Burgh Police Acts, and are not entirely suitable for the cities to adopt as they stand. But, say the Department of Health for Scotland, the cities may find it convenient to use the substance of the new model byelaws when they come to revise the building rules or byelaws made under their local Acts.

New high output MARVEC Fire

heats up to 2,250 cu. ft. and supplies hot water

SPECIFICATION Vitreous enamelled cast-iron fire front. Combined hook-on trivet and extension piece. Plain cast-iron interior sealing frame to fit behind tile or precast surround. Firebrick lined firebox; removable bottom grate; restrictable throat.

Wrought welded or copper boiler with 1 in. connections on top. Sealing rings for pipes passing through casing. Self-contained boiler flue and damper and lift-off back-plate. (Cast-iron interior frame, enamelled to match fire front, can be supplied.)

COLOURS Beige mottle or black. Allustre A2. Alisheen black, bramble, bronze or copper. Hook-on trivet — black vitreous enamel.

STRUCTURAL OPENING

Minimum Dimensions

Width :	20 ins.
Depth :	13½ ins.
Height from hearth level to underside of lintel :	33 ins.

Alternative adaptors are available to suit tile surrounds with 2⅜ ins. and 4⅜ ins. return to wall.

FIRE OPENING IN SURROUND

Width :	16 ins.
Height :	22 ins.

GAS IGNITION Connections ¾ in. B.S.P. on either hand. Provision can be made for a concealed gas connection.

SPACE HEATING CAPACITY If provision is made to introduce convected air to the living room, a room of 2,250 cu. ft. can be heated.
If convected air is used for warming other rooms, full heating up to 1,750 cu. ft. is provided, and background warmth for other rooms up to a total of 2,000 cu. ft.
Note: These figures apply to rooms of normal construction.

BOILER OUTPUT Maintainable maximum 9,000 B.Th.U. per hour.
Provided the system is compact the boiler can heat a towel rail in addition to supplying domestic hot water. If the boiler is not used to provide domestic hot water, 45 sq. ft. of radiation surface (including unlagged piping) can be heated.

HOT WATER SYSTEM The recommended size of cylinder is 30 gallons (direct or indirect). The cylinder must be lagged and should be fixed vertically as near as possible to the boiler. In no case must flow and return pipes exceed 30 ft. each in length. Pipes longer than 15 ft. must be lagged. The draw-off pipe to the taps must be a dead leg connection from the expansion pipe.

The fuel-saving RESTRICTABLE THROAT

. . . a curved plate in the flue outlet. Adjustable so that chimney throat can be wide or narrow. It effectively controls room ventilation, saving heat and eliminating draughts.

For further details of the Marvec Fire write to the Housing Division of:—

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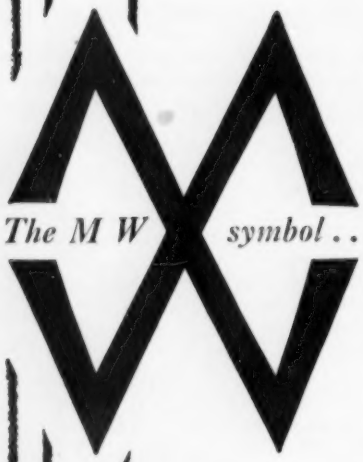
Makers of cookers, boilers and fires

28 Brook Street, London, W.1.

Metal Windows have been made to resist rust . . .

..due to the efforts of the Metal Window Association



The M W symbol ..... of the Metal Window Association is a guarantee of good faith and good work. For many years the members have been gradually improving the efficiency and finish of Metal Windows.

THE METAL WINDOW ASSOCIATION

BURWOOD HOUSE, CAXTON STREET, LONDON, S.W.1.

Building Parts off the Peg

THE President in his Inaugural Address* made a long reference to the subject of prefabrication. He explained that by the use of this term he meant "the production of standard units of building, such as walls, bases, doors, windows, wall blocks and indeed anything which can be made in a factory." If the term is used merely to cover "factory-made products" then it would seem that no serious change from the practice of many years is intended but merely an extension of buying ready-made parts to cover a much wider range of articles which could be more advantageously made in factories by mass-production methods. One must agree with the President that this increase of the use of ready-made parts is not an expedient arising out of difficulties due to the war period but a change in manufacturing technique, which is, as the President also remarked, a natural development of the machine age in which we live.

It seems likely that many who read the Inaugural Address will disagree with the use of the term "prefabrication" to mean "stock products" as advertised in manufacturers' catalogues. The President said that he did not mean the term to include "the production of whole units of buildings, such as sheds, houses, schoolrooms, etc., sold as an answer to a given problem" which is much more what many in the building industry call, quite erroneously, "prefabrication." This form of prefabrication certainly covers what many of us view as being an undesirable form of the extension of prefabrication to limits which tend to eliminate the skill of the architect in the assembly of products so that "architecture" cannot result. The President said that he did not think that "architecture" could be produced by this method. The critics, however, seem so often to be doubtful that even by the use of standardized parts it is possible to produce "architecture." These critics, however, seem to forget that much of the traditional architecture they admire, and also the jerry-building which they despise, make use of standard bricks and standard windows. It is often overlooked that the double-hung sash windows of 200 years ago were virtually standard in design either because of the willingness to repeat a previous design or because a design from a pattern book was adopted in spite of the fact that the windows for each job were hand-made by the builder.

It is slightly puzzling to know why the President should have said "in 1945-46 it was almost an impossibility to find prefabricated units" when he defines his term "prefabrication" to cover such items as doors, windows and wall blocks as these have been available (perhaps not in the form the President wanted them) as prefabricated units for a very long time. Surely the normal 18in × 9in × 9in concrete block and the Fletton brick are prefabricated wall units. It would seem that there may be some confusion in the minds of some readers of the Inaugural Address arising from the use of terms.

If the President means, as seems probable, that he merely hopes to see an increasing use of ready-made building parts his proposal should be applauded and encouraged as in this machine age it is simply not economic in relation to many building parts to produce on the basis of "one off" or for the work of one architect even if he is in control of large quantities of work.

Some architects may be unhappy by this expression of opinion as it may seem to them that the President is suggesting that architects should become the assemblers of jigsaw puzzles. This critical view seems to be quite wrong and results from a misconception of what is needed from factory-made products. The parts of a jigsaw puzzle can only be assembled in a specific way as each piece has only one possible place, whereas if a range of suitably dimensioned parts, like Meccano and other toy construction systems, is available, the dimensions of which are properly co-ordinated, as they should be, the architect will then be free to select what units he wishes and to place them in positions he chooses to produce his own solution to each problem.

How is it possible then to achieve the production of ranges of products to suit this freedom system which will permit of the construction of what the President describes as "construction of architectural quality"? The answer is neither to let each manufacturer free to make what he hopes will meet the demand nor to let each architect design his own sizes and shapes and hope that perhaps others will accept them. The employment of an industrial designer is also unlikely to be satisfactory since it will again be the product of one person's ideas. The satisfactory answer can only be achieved first through the establishment of a workable system of co-ordination of dimensions of parts, by the co-operation of architects, builders and manufacturers meeting together at B.S.I., and secondly by the architects pooling their ideas of requirements and taking an active and live part in the preparation of British Standards for reasonable ranges of the many products needed for all normal building work. The resultant standards, if properly prepared, should give the architects, as assemblers of parts, a wide choice from the stock lines of the manufacturers as these should show wide variation within the limits necessary for co-ordination of one product with another.

There is at the present time a serious risk, due to the bulk of architects having taken only a limited interest in the development of factory-made units, that architects have to accept the units designed by one architect or even by the manufacturer himself; in addition, however, there is a more serious risk because there is a tendency to move from the manufacture of parts for the architect to assemble as he wishes, to the production by manufacturers and even by some architects of whole systems of construction depending on specially designed units. This further development might benefit the owners of the systems because, having had the system accepted, the architect is forced to go to that manufacturer for all the parts. There seems no doubt that the extension of the use of these building systems will kill any chance of developing architecture since the architects are controlled by the limitations of the systems. All development of the use of "out of the catalogue" units must stop at the units themselves and not be extended to cover systems of assembly if the architect is to be free to produce architecture. Already there are signs around this country of dull repetition arising from the spread of systems of assembly and construction which need to be checked quickly. Particular building systems often involve costly plant and assembly equipment on which the sellers of the systems want, for economic reasons, the minimum of change from job to job, whereas for architecture it is ready-made parts that are needed so that the architect, with adaptable equipment in the hands of the general contractor, may assemble the parts to meet individual problems.

Much of what we buy is already stock production. It has been a growing tendency for a very long time and quite naturally this "off the peg" availability is bound to extend for economic reasons. The industry cannot afford to price building out of the market, which may well happen if modern machine methods are not used to provide the parts needed by the architects to create architecture. It is not necessary to be a slave to the machine in order to make use of it; what is needed is to persuade those who produce building supplies to provide the parts that are needed in a co-ordinated form which permits their assembly in as great a variety of ways as possible.

DUTCH UNCLE

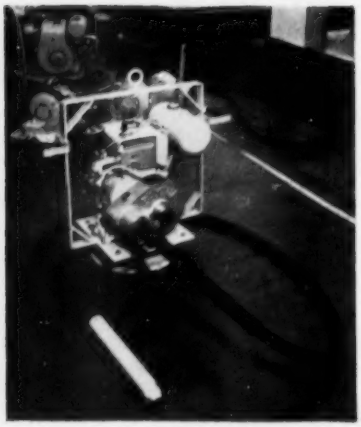
* *See issue dated Nov.* 4, 1954.

Minister of Works:

Appointment of Secretaries

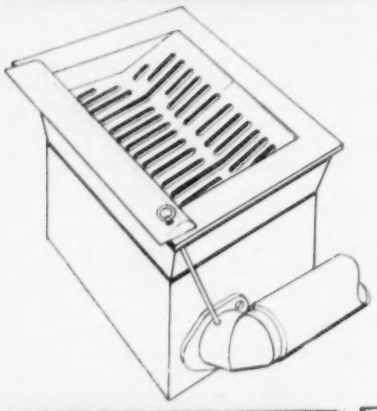
Mr. Nigel Birch, M.P., Minister of Works, has appointed Mr. J. W. W. Peyton, M.P., as his Parliamentary Private Secretary, and Mr. J. H. S. Burgess as his Principal Private Secretary.

MOSAICS



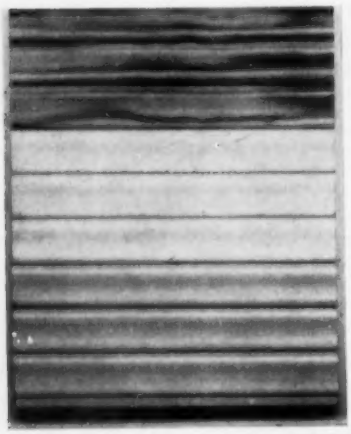
PLANT
CONCRETE MIXING
E8/8

The new "Baxtul" diesel driven immersion concrete vibrator has been produced by The Flexible Drive & Tool Co. Ltd., Queensbury Way, London, S.W.7. It is powered by a 2½ h.p. Petters PAZ1 aircooled diesel engine and equipped with Baxtul totally enclosed, speed increasing, gearbox—with centrifugal clutch. It is claimed that constant vibrations are obtained in addition to the elimination of all belt troubles and maintenance. Can be supplied with extra heavy duty rubber outercasing which increases the life of the flexible shaft.



SERVICES
SPACE HEATING
B3/60

The "Baxi" patent side inlet fire has been produced by Richard Baxendale & Sons Ltd., Albert St. Foundry, Chorley, Lancs. It burns any type of solid fuel and is made to fit fireplaces from 14in to 24in. It is specially designed for houses with solid floors where the fireplace is on the outside wall. It does away with the necessity of fitting lengths of piping with bends, thus the work involved is greatly simplified. Also suitable for upstairs rooms. Can be obtained in a variety of finishes.



FINISHES
WOOD
D6/5

Plyfa Profile Plywood, a new type of decorative plywood, made from Swedish Pine, is now being imported into this country by Venesta Ltd., Vintry House, Queen St. Place, London, E.C.4. The face side is machined to produce an attractive ribbed finish which can be polished or painted. It is already extensively used in Scandinavia and Holland for decorative panelling in shops, restaurants and private houses. It can also be used in furniture construction. The line drawing shows a full size section.

PLANT
HAND TOOLS
E3/35

The "Horvell" electric paint scraper is made by Maurice Cheshire & Co., 215 Moseley St., Birmingham, 5. The scraper consists of a specially bevelled blade for either push or pull action with shaped corners for curved surfaces. The blade is backed with a 130-Watt element, choice of four voltage ranges is available. A few minutes after plugging into a source of supply the scraper is hot enough for use. A feature of this method of paint scraping is that sashes may be scraped right up to the glass.

INDUSTRIAL NOTES

● "F.B.I. Register of British Manufacturers, 1955"—27th Edition, has just been published for the Federation of British Industries by Kelly's Directories, Ltd., and Iliffe and Sons, Ltd., Dorset House, Stamford Street, London, S.E.1. Publication price 42s (post free). Size 9½in × 7½in, 1,089 pages. Bound full cloth. Contents: Foreword by the President of the F.B.I., Sir Harry Pilkington—Details of the Organization, Aims and Activities of the F.B.I. at Home and Overseas—French, German and Spanish sections—Products and Services: Classified Buyers' Guide—Language Glossaries—Addresses: Alphabetical Directory—Trade Associations—Brands and Trade Names—Trade Marks.

● Full details of manufacturers, their products and their advertisements are given in the "Directory of British Rubber Manufacturers and Products" just published (demy-4to, 236 pp.). It will be distributed to every country in the world including the Soviet Union and China, and is one of the most comprehensive directories of its kind ever compiled.

Published by the Federation of British Rubber Manufacturers' Associations, 43, Bedford Square, London, W.C.1, the directory is free to overseas importers of rubber products, and to other readers 25s.

● The address of the Western Area Office of Davies, Middleton & Davies, Ltd., Building & Civil Engineering Contractors, Plant Hire & Piling Specialists, is now: Samlet Works, Neath Road, Llansamlet. Telephone: Swansea 71981.

● Mr. Arthur Dawson, A.C.A., has been appointed Deputy Managing Director of Celotex, Ltd., the fibre building board manufacturers.

Mr. Dawson, who has been Secretary of the Company since 1937, was elected a Director in 1953. He will continue to be the Company Secretary.

He is a member of the Governing Council of FIDOR, and the Council of Management of the Building Board Manufacturers' Association.

● The Governing Council of Fidor has appointed Mr. R. C. Botsford, B.Sc. (Eng.) Lon., A.C.G.I., as Technical Assistant to the Organization.

● British Insulated Callender's Cables, Ltd., announce that from the 21st of this month the telephone number of their Reading Branch Office will be Reading 55074-5.

● The Cement Marketing Company, Ltd., announce that as and from December 31, LECA Lightweight Expanded Clay Aggregate will cease to be manufactured by The Blue Circle Group of Companies.

Ample supplies will have been produced by then to provide a stockpile sufficient to meet all outstanding commitments for contracts for which LECA has been specified and also to enable blockmakers to meet their obligations for LECA concrete blocks, for which, incidentally, they already hold ample stock.

The decision to discontinue the production of LECA has reluctantly had to be made as it has proved so conclusively its advantage as a thermal insulating material and lightweight aggregate. The increases in the cost of fuel and transport since it was first marketed have, however, so forced up manufacturing and distributing costs that it is felt it can no longer be offered to buyers at an economical figure.

The **contemporary floor**

that fits modern furnishing needs . . .

Furniture by Bowmans

*plan for Accotile** **FLOORING**

With the growing popularity of contemporary style home furnishing comes the desire for flooring in harmony. No material fits this need so well as Accotile—the modern thermoplastic tile floor. First—it is *flexible* in design, for it is laid tile by tile. Second—there are 22 colours in the Accotile range, an assurance of colour harmony with any scheme of furnishing. Finally—Accotile provides a *close-fitting*, hygienic and draught-proof floor.

Accotile is alkali resistant, damp-proof and can be laid on concrete direct to earth; it can be quickly installed and ready for immediate use. Specialist Laying Contractors with over 90 Branches throughout the country are ready to collaborate with Architects anywhere. Send for Colour Range Folder 305G

The Low-cost Floor with the Luxury look.

Available in 12" x 12" and 9" x 9" tiles, ⅛" and 3/16" thick, with 24" feature strip in widths from 1" to 5½" in multiples of ¼". Top-set coved skirting available 4" high, 36" long with ½" radius cove.

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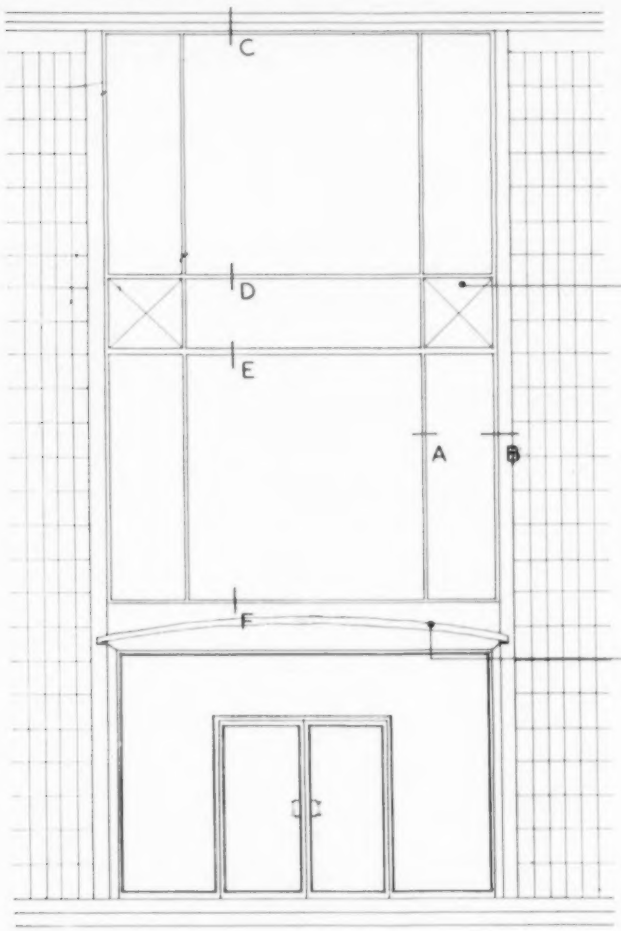
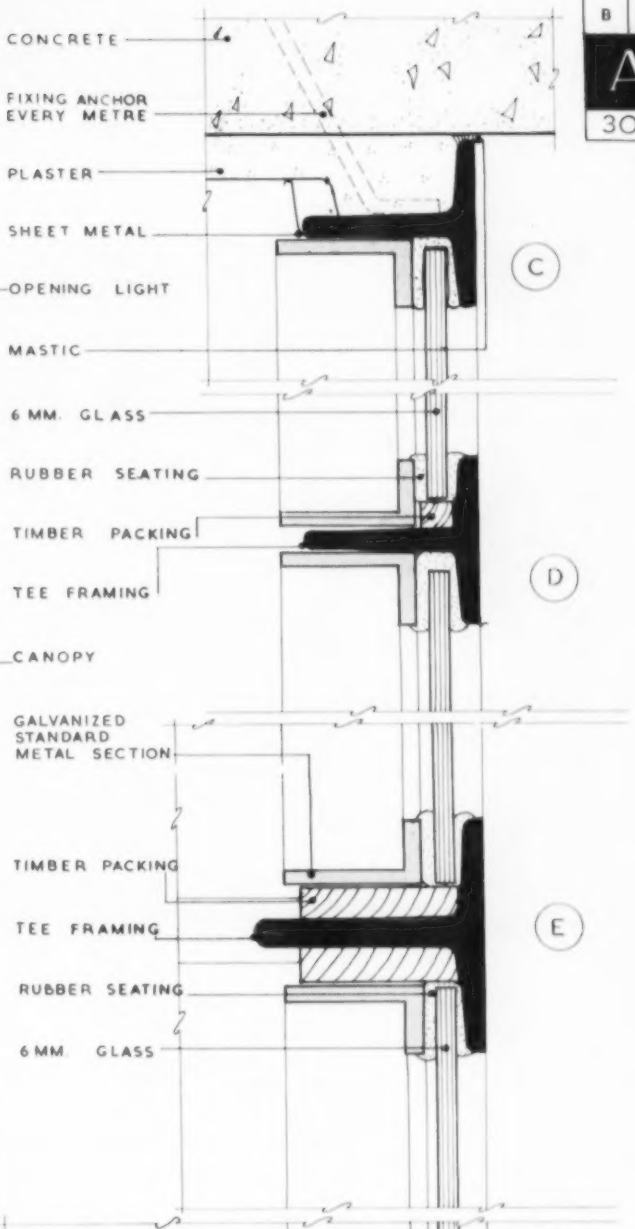
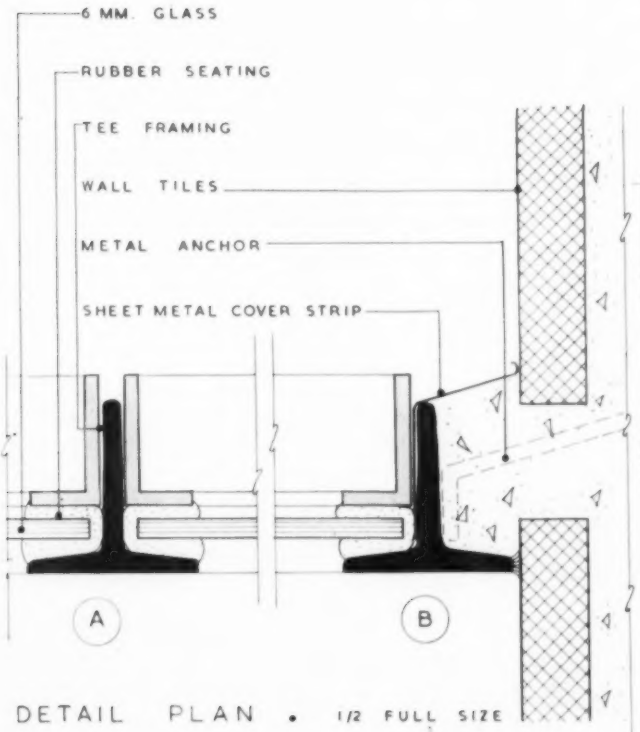
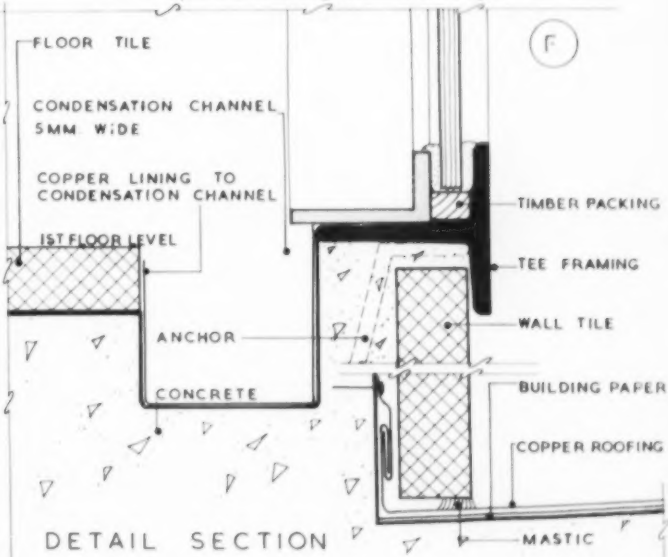


KEY ELEVATION





DETAIL PLAN • 1/2 FULL SIZE



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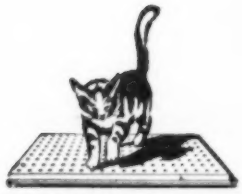

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CONTRACT • NEWS •

Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading, (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked ★ are given in the advertisement section.

OPEN

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AMMANFORD U.C. (a) 2 blocks of 4 flats, Norman Road site. (b) Council's Surveyor, Council Offices, College Street. (c) 2gns. (e) Dec. 11.

• • •

BATH C.C. (a) Erection, including site works, of a junior school at Upper Weston. (b) Messrs. Gerrard, Taylor and Partners, 4-5, Bridge Street. (c) 2gns. cheque payable to Corporation. (d) Nov. 30.

• • •

BINGLEY U.C. (a) (1) Block of 4 flats at Cullingworth; (2) block of 4 flats at Wilsden; (3) block of 4 flats and 2 blocks of 2 flats at Harden. (b) Council's Architect, Town Hall. (c) 2gns. (e) Dec. 7.

• • •

BUCKINGHAMSHIRE C.C. (a) Single-storey offices and garages at Aylesbury Ambulance Station. (b) County Architect, County Offices, Aylesbury. (c) 2gns. (d) Dec. 16. (e) Jan. 17.

• • •

BUCKINGHAMSHIRE C.C. (a) Four-bay appliance room and offices, dormitory, dining facilities and ambulance station, at Slough Fire Station. (b) County Architect, County Offices, Aylesbury. (c) 2gns. (d) Dec. 6. (e) Jan. 10.

• • •

BUCKINGHAMSHIRE C.C. (a) Erection of the Slough magistrates' and County courts. (b) County Architect, County Offices, Aylesbury. (c) 2gns. (d) Dec. 27. (e) Jan. 24.

• • •

BUCKINGHAMSHIRE C.C. (a) Grammar school at Bletchley. (b) County Architect, County Offices, Aylesbury. (c) 2gns. (d) Dec. 13. (e) Jan. 17.

• • •

BUCKINGHAMSHIRE C.C. (a) Aged persons' home, Wexham Court, Slough. (b) County Architect, County Offices, Aylesbury. (c) 2gns. (d) Dec. 8. (e) Jan. 10.

• • •

BUCKINGHAMSHIRE C.C. (a) Day special school, High Wycombe. (b) County Architect, County Offices, Aylesbury. (c) 2gns. (d) Dec. 22. (e) Jan. 19.

• • •

BUCKINGHAMSHIRE C.C. (a) Secondary school, Princes Risborough. (b) County Architect, County Offices, Aylesbury. (c) 2gns. (d) Dec. 3. (e) Jan. 10.

• • •

BUCKINGHAMSHIRE STANDING JOINT COMMITTEE. (a) Erection of (1) 2 police houses, Uplands Avenue, Chesham; (2) 2 at Old Bradwell Road, New Bradwell; (3) 8 at Winterton Drive, Aylesbury; (4) 6 at Twinches Lane, Slough; (5) 1 house and office at Queen Catherine Road, Steeple Claydon. (b) County Architect, County Offices, Aylesbury. (c) 2gns each contract. (d) Dec. 1. (e) Dec. 29.

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CARDIGANSHIRE C.C. (a) Conversion of the Avondale Hotel, Aberystwyth, to form an aged persons' home. (b) County Architect, County Hall, Aberayon. (c) 2gns. (e) Dec. 15.

* * *

CHERTSEY U.C. (a) Erection of blocks of garages at Addlestone, New Haw, Chertsey, comprising 52 garages on 5 sites, with surface water drainage and paving. (b) Engineer and Surveyor, Council Offices. (c) 1gn. (e) Dec. 31.

* * *

CHURCH U.C. (a) 12 flats in blocks of 4, in traditional brick construction, Riding Barn Estate. (b) Engineer and Surveyor, Council Offices. (c) 4gns. (e) Dec. 4.

* * *

CORNWALL C.C. (a) (1) secondary school at Wadebridge; (2) junior school at Carclaze, St. Austell; (3) kitchen dining-room at Saltash Grammar School. (b) County Architect, County Hall, Truro. (c) (1) and (2) 5gns each; (3) 2gns. (d) Nov. 30. (e) Jan. 12.

* * *

CROYDON B.C. (a) 96 garages in 4 groups on sites at New Addington. (b) Borough Engineer, Town Hall, Croydon.

* * *

CUCKFIELD R.C. (a) (Contract No. 105) 14 dwellings, Horsted Keynes. (b) Engineer and Surveyor, Rural Council Offices, Boltro Road, Haywards Heath. (c) 2gns. (e) Dec. 20.

* * *

DEARNE U.C. (a) 6 aged persons' bungalows off Market Street, Goldthorpe. (b) Engineer and Surveyor, Council Offices, Bolton-upon-Dearne. (c) 2gns. (e) Dec. 11.

* * *

DERBYSHIRE C.C. (a) Police sub-station with living accommodation at Hackenthorpe, near Sheffield. (b) County Architect, County Offices, St. Mary's Gate, Derby. (c) 2gns. cheque payable to Council.

* * *

DROYLSDEN U.C. (a) 4 shops and maisonnettes, Gloucester Road Estate. (b) Frank Bradley, Pennybank Chambers, 4, Wood Street, Bolton. (c) 2gns. (e) Dec. 7.

* * *

EAST SUFFOLK C.C. (a) 4 additional classrooms at Beccles County School and Bungay Junior School. (b) County Architect, County Hall, Ipswich. (d) Dec. 1. (e) Dec. 31.

* * *

EIRE—DUBLIN C.C. (a) 178 houses at Finglas West area. (b) City Treasurer, Exchange Buildings, Lord Edward Street, Dublin. (c) 15gns. (e) Dec. 10.

* * *

ESSEX C.C. (a) Erection of the Harwood Hall day special school, Upminster (approx. cost £40,000). (b) County Architect, County Hall, Chelmsford. (d) Dec. 4.

* * *

ESSEX C.C. (a) Junior school at Rise Park, Romford (approx. cost £50,000). (b) County Architect, County Hall, Chelmsford. (d) Dec. 4.

* * *

ESSEX C.C. (a) Culverhouse secondary boys' school, Ockenden (approx. cost £128,000). (b) County Architect, County Hall, Chelmsford. (d) Nov. 29.

* * *

ESSEX C.C. (a) Harlow Tye Green and Latton Common junior and infants' school (approx. cost £90,000). (b) County Architect, County Hall, Chelmsford. (d) Nov. 27.

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FOLKESTONE B.C. (a) 37 houses, Wood Avenue. (b) Borough Engineer, Municipal Offices. (c) 3gns. each contract (Work to be let in 3 contracts) to Borough Treasurer. (d) Dec. 4.

* * *

HAVERFORDWEST R.C. (a) 4 pairs of houses, with sewers, etc., at Crundale No. 2 site. (b) Building Surveyor, 8, Picton Place. (e) Dec. 6.

* * *

ILKLEY U.C. (a) 12 dwellings in 3 blocks and 8 dwellings in 2 blocks; Burley-in-Wharfedale. (b) Council's Surveyor, Chantry Drive. (c) 2gns. (e) Dec. 4.

* * *

LINDSEY C.C. (a) Erection of the first phase of the Barton-on-Humber bilateral school. (b) County Architect, County Offices, Bewland, Lincoln. (e) Jan. 18.

* * *

LIVERPOOL C.C. (a) (1) alterations at Lister Drive Baths, and (2) erection of additional classrooms at Dingle Vale Secondary Modern School. (b) City Architect, Blackburn Chambers, Dale Street, Kingsway, 2. (c) 2gns. to City Treasurer. (e) Dec. 4.

* * *

LONDON—WEST HAM B.C. (a) (Contract 231) 20 houses, 15 flats and 12 garages, South Molton Road, E.16. (b) Borough Architect, 70, West Ham Lane, E.15. (c) 2gns. (d) Nov. 27.

* * *

NANTWICH R.C. (a) 2 houses and 6 bungalows at Buerton. (b) Engineer and Surveyor, Stapeley House, near Nantwich. (c) 2gns. (e) Dec. 13.

* * *

NORFOLK E.C. (a) Erection of (1) a branch library at North Walsham; (2) 4 classrooms, boiler basement, cloakrooms, etc., at Hethersett Voluntary Controlled School. (b) Chief Education Officer, County Education Offices, Stracey Road, Norwich. (d) Dec. 1.

* * *

NORTHAMPTONSHIRE C.C. (a) Erection of builders' work in foundations, etc., up to ground floor, for infants' school at Exeter Estate, Corby. (b) County Architect, County Hall, Northampton. (d) Nov. 30.

* * *

RUNCORN R.C. (a) 6 houses, with a sewage disposal works, etc., at Crowley, Antrobus. (b) Engineer and Surveyor, Castle Park, Frodsham, Warrington. (c) 2gns. cheque payable to Council. (e) Dec. 5.

* * *

RYDE B.C. (a) 4 flatlets at Circular Road, Ryde, Isle of Wight. (b) Borough Surveyor, 5, Lind Street. (c) 2gns. (e) Dec. 4.

* * *

SCOTLAND—ARGYLLSHIRE C.C. (a) Erection of three-classroom school and schoolhouse at Ashfield, Achnamara; 2 classrooms at Kinlochleven; a central kitchen at Dunoon; rebuilding of single-classroom school at Gruline, Mull; a three-classroom school and schoolhouse at Ardchonnel; restoration of fire-damaged single-classroom school at Cairnbaan; and addition of three classrooms and new kitchen at Strachur. (b) County Architect, County Offices, Dunoon. (d) Dec. 1.

* * *

STROUD U.C. (a) 16 houses at Bisley Road site. (b) Engineer and Surveyor, Council Chambers, High Street. (e) Dec. 8.

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SWANAGE U.C. (a) 36 houses, with site works, Priests Road site. (b) P. S. Browne, Town Hall. (c) 2gns payable to Council. (e) Dec. 11.

* * *

TONBRIDGE U.C. (a) (Contract No. 6) 12 pairs of houses, Higham Wood Estate. (b) Engineer and Surveyor, Tonbridge Castle, Tonbridge. (c) 3gns. (e) Dec. 16.

* * *

TWICKENHAM B.C. (a) 48 flats in 4 3-storey blocks with 12 garages and service road, Broad Lane, Hampton. (b) Borough Engineer, Municipal Offices. (c) 3gns. (d) Nov. 29.

* * *

WALES GAS BOARD. (a) Workshops and offices at the new works at Aberavon. (b) General Manager, Port Talbot Undertaking, Wales Gas Board, 18, Station Road, Port Talbot. (c) £4, by cheque.

* * *

WIGAN B.C. (a) Erection of shops to the Market Street frontage of Market Hall (Stage 1). (b) Borough Engineer, Municipal Buildings, Library Street. (c) 2gns. (e) Dec. 10.

MISCELLANEOUS

DAGENHAM B.C. The Council is preparing an approved list of firms willing to tender for works of school maintenance, providing for general building repairs, flat roofs, and tarpaving, heating, electrical work, and other works. Applications, with details of similar work carried out, to Borough Engineer, Civic Centre, Dagenham, by December 4th.

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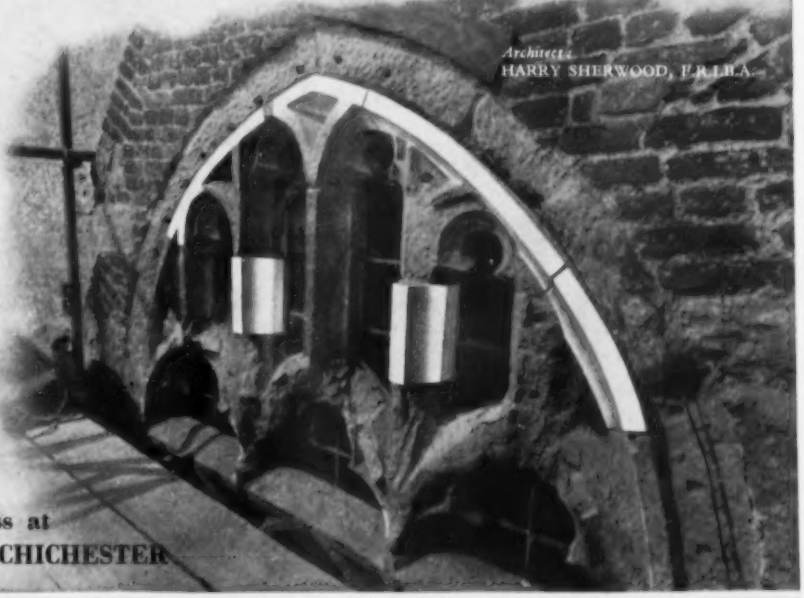

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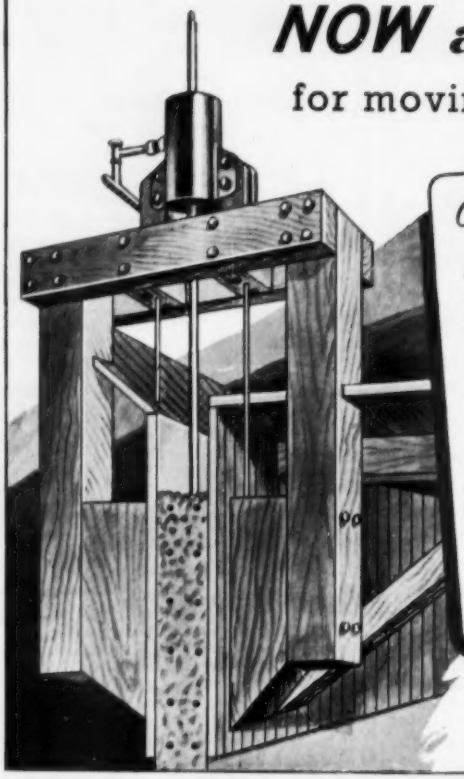

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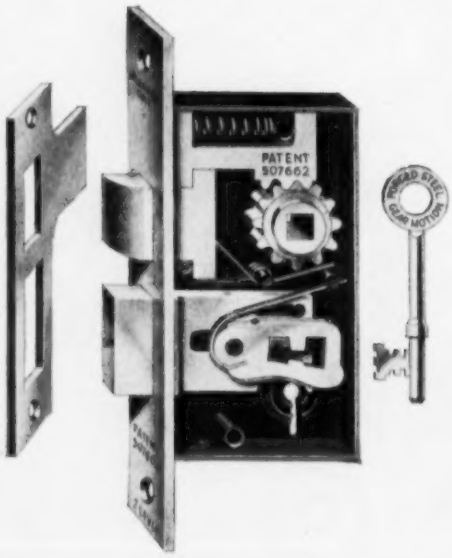

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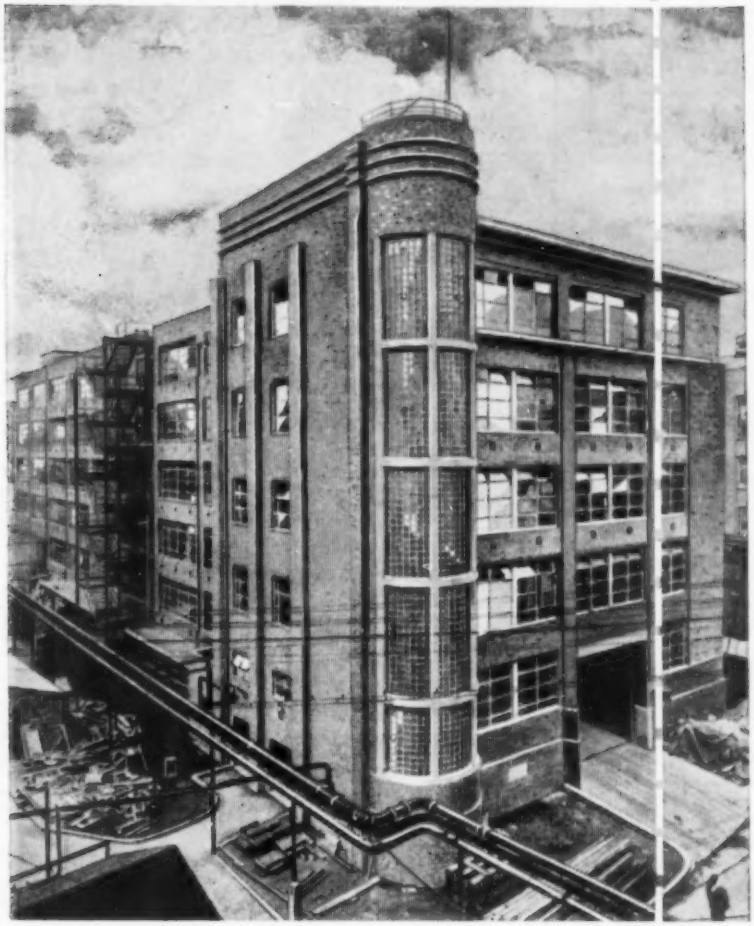

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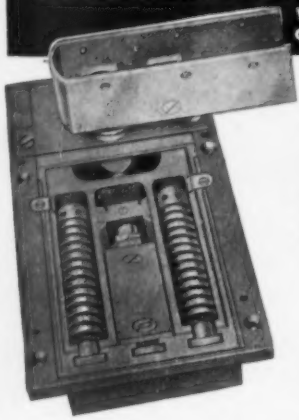

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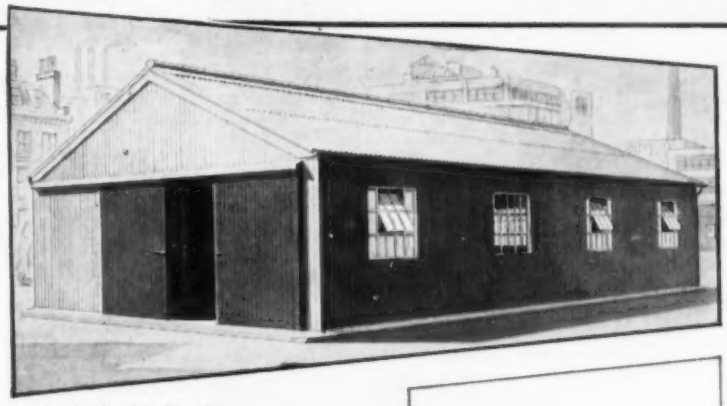

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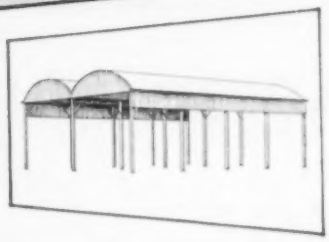

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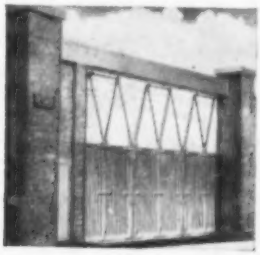

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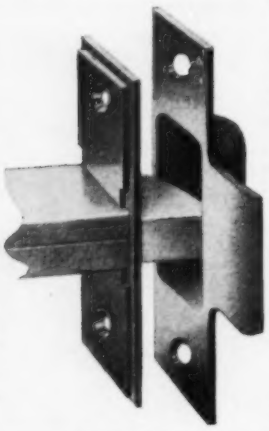

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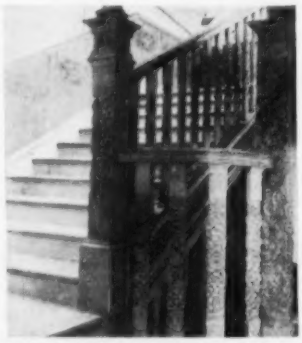

BURMESE STAIRCASE

This staircase has an overall size of 19ft. 3in. by 13ft. 3in., consisting of 20 treads and risers 12in. by 6in. by 5ft. long, with two single landings and two double landings. One entrance door in two halves, 7ft. 6in. by 4ft. 8in., with bevelled glass panels. One door in two halves with two glass panels and two bevelled panels. All in oak.

The dado is of teak in which there are 38 carved panels. The balustrade is also of carved teak. There are five newel posts, all carved and topped with two lions, one cobra, one elephant. The main door entrance is all oak with 55 carved teak panels, also two corner brackets with cobras carved in teak. The alcove, with Gothic arched ceiling, is in oak panelling. The native carving is beautiful and was carved by Beato, Mandalay, Burma, 1904.

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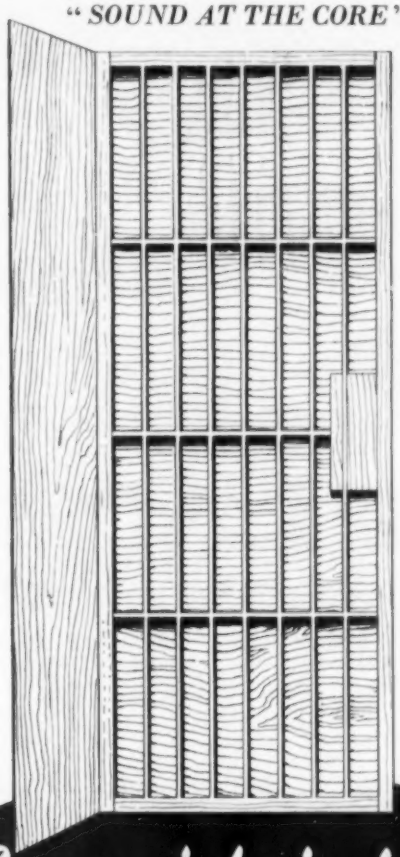

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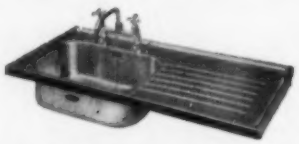

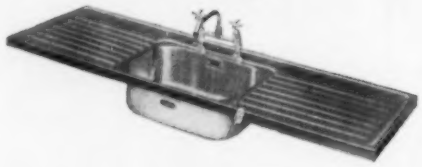

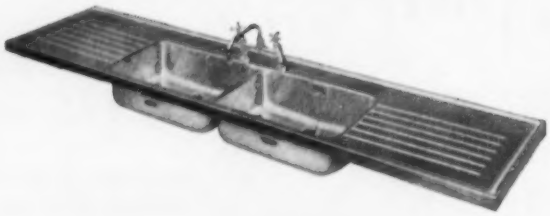

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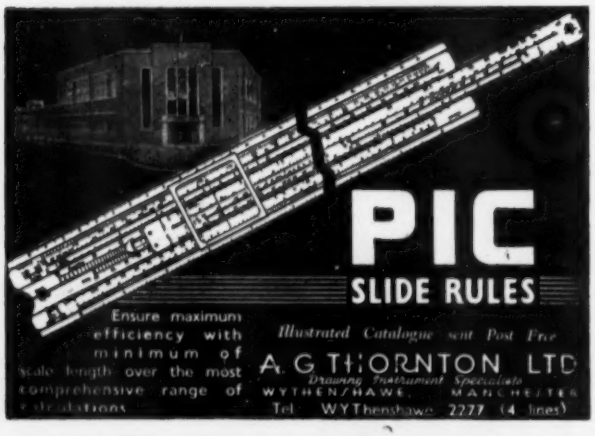

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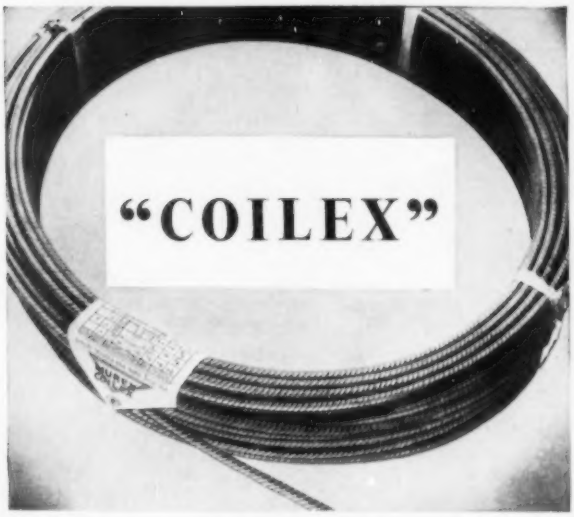

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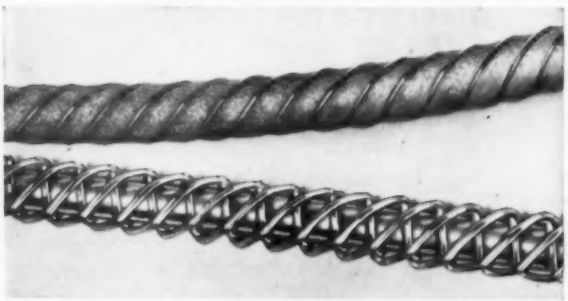

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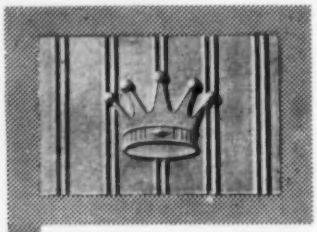

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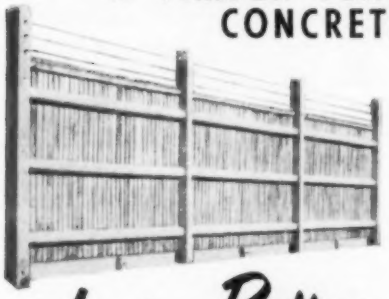

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APPOINTMENTS

The engagement of persons answering these advertisements must be made through the local office of the Ministry of Labour and National Service, etc., if the applicant is a man aged 18-64 or a woman aged 18-59 inclusive, unless he or she or the employer is excepted from the provisions of The Notification of Vacancies Order, 1952.

URBAN DISTRICT COUNCIL OF CORBY.

ENGINEER AND SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for the undermentioned appointments in the department of the Engineer and Surveyor.

(1) SENIOR ARCHITECTURAL ASSISTANT. Salary in accordance with new Grade A.P.T. IV (£675-£825), commencing at £675 per annum.

Applicants must be Registered Architects and should have considerable experience in design, construction and contract administration.

(2) SENIOR QUANTITY SURVEYOR. Salary in accordance with new Grade A.P.T. IV (£675-£825), commencing at £675 per annum.

Applicants must have passed final R.I.C.S. (Quantities Section) and be thoroughly experienced in the preparation of Bills of Quantities, adjustment of variations and settlement of final accounts. Previous experience of substantial contracts for local authority housing is desirable.

(3) JUNIOR ASSISTANT QUANTITY SURVEYOR. Salary in accordance with Miscellaneous Division III (£395-£460), commencing at £395 per annum.

Applicants must be 22 years of age, or over, and have completed their National Service. The post offers scope and facilities for the successful candidate to qualify as a Chartered Surveyor. Previous suitable experience associated with works of building erection is essential.

The provisions of the Local Government Superannuation Acts, 1937-1953, will apply in respect of each appointment. Housing accommodation will be made available to successful candidates, if married.

Forms of application may be obtained from the undersigned, and requests therefore should indicate the position for which application is being made. Completed forms must be received not later than 8 a.m. on Saturday, the 11th December, 1954.

G. B. BLACKALL,
Clerk of the Council.

Council Offices,
CORBY, Northants.
November 12th, 1954. [8527

COUNTY BOROUGH OF ST. HELENS.

APPLICATIONS are invited for the appointment of SENIOR ARCHITECTURAL ASSISTANT in the Borough Engineer's Department within the new A.P.T. Grade IV (£675-£825) according to qualifications and experience.

Applicants should be Registered Architects, preferably holding a recognised architectural qualification and have had experience in the design of educational buildings.

Housing accommodation will be made available if required by the successful candidate.

The appointment will be terminable by one month's notice and will be subject to the Local Government Superannuation Acts and medical examination.

Candidates must, when making application, disclose in writing whether to their knowledge they are related to any member of the Council or to a holder of any senior office under the Council.

Applications stating age, qualifications, present and past appointments and details of experience, accompanied by copies of three recent testimonials must be forwarded to M. Ward, M.I.Mun.E., A.M.T.P.I., Borough Engineer, not later than Monday, the 13th December, 1954.

Canvassing in any form will be deemed a disqualification.

Town Hall,
ST. HELENS. [8561

APPOINTMENTS—contd.

LONDON ELECTRICITY BOARD.

JUNIOR QUANTITY SURVEYOR.

APPLICATIONS are invited for the above position in the Chief Engineer's Department in Central London.

Applicants should have had experience in working-up in all trades, and the successful candidate will work under the direction of a Chartered Quantity Surveyor.

The post is graded under Schedule "C" of the National Joint Board agreement as Grade 9—£415 per annum rising to £600 12s per annum, inclusive of London Allowance.

Application forms obtainable from Personnel Officer, 46, New Broad St., E.C.2, to be returned completed by 30th November, 1954. Please enclose addressed envelope and quote ref.: V/1845/AA on envelope and all correspondence. [8514

BOROUGH OF EPSOM AND EWELL.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

APPLICATIONS are invited for the appointment of an ARCHITECTURAL ASSISTANT APT III (£550-£595), plus London Weighting. Applications, giving details of age, qualifications, training and experience, with names and addresses of three referees, should be sent to Mr. Norman Auty, M.Inst.C.E., M.I.Mun.E., Borough Engineer and Surveyor, not later than Monday, 6th December.

EDWARD MOORE,
Town Clerk.

Town Hall,
The Parade,
EPSOM. [8546

CITY OF BELFAST.

EDUCATION COMMITTEE.

APPLICATIONS are invited for the following posts on the permanent staff of the Education Architect (Donald A. Shanks, Dipl.Arch., A.R.I.B.A.).

(a) ARCHITECTS, Class II.

(b) ARCHITECTURAL ASSISTANT, Class I.

The salary for (a) is £550×£25—£825 per annum. Minimum linked to age 26, with one increment for each year up to 32.

Applicants for the positions (a) must be Registered Architects and preference will be given to applicants who have experience in up-to-date school design, and who have a good knowledge of contemporary construction and materials. Previous Local Authority experience is not necessary.

The salary for (b) is £400×£20—£600 per annum.

Applicants for the position (b) should have the intermediate R.I.B.A. or equivalent examination and should have a sound practical experience with the design and construction of buildings and preparation of specifications.

The following conditions apply to these appointments.

Superannuation contributions payable at the rate of approximately 6 per cent of remuneration.

Preference will be given to ex-Service candidates possessing the required qualifications, provided the appointing authority is satisfied that such candidates can, or in a reasonable time will be able to fill the post efficiently.

Canvassing for the appointment in any form, oral or written, direct or indirect, will disqualify a candidate for appointment.

Further particulars and application forms may be obtained from the Education Offices, Academy Street, Belfast, on personal application or by sending a stamped addressed foolscap envelope. Applications should reach the undersigned not later than Thursday, December 2. [8557

APPOINTMENTS—contd.

LONDON ELECTRICITY BOARD.

ARCHITECTURAL DRAUGHTSMEN.

APPLICATIONS are invited for the above positions in the Architect's Section of the Chief Engineer's Department in Central London.

Applicants should be neat draughtsmen and preferably have had several years' experience in an Architect's office.

The post is graded under Schedule "D" of the National Joint Board agreement as Grade 6—£458 to £595 7s per annum, inclusive of London Allowance.

Application forms obtainable from Personnel Officer, 46, New Broad St., E.C.2, to be returned within fourteen days of the publication date of this advertisement. Please enclose addressed envelope and quote ref. V/1785/AA on envelope and all correspondence. [8547

COUNTY BOROUGH OF GREAT YARMOUTH EDUCATION COMMITTEE.

SCHOOLS ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited from Associate Members of the Royal Institute of British Architects for the appointment of SENIOR ASSISTANT ARCHITECT on the permanent staff, salary Grade VII (£735—£810).

Candidates should have a knowledge of modern school design and construction.

The Council is unable to assist with housing accommodation. An allowance of 25s per week will be paid for a period not exceeding six months, in the event of a married man being appointed who is unable to find accommodation.

Further particulars and forms are to be obtained from The Schools Architect, 22, Euston Road, Great Yarmouth, to whom they should be returned by the 3rd December, 1954.

D. G. FARROW,
Chief Education Officer.
[8535

BRITISH ELECTRICITY AUTHORITY.

MIDLANDS DIVISION.

APPLICATIONS are invited for the following appointments in the Generation (Construction) Department at Wolverhampton. N.J.B. service conditions, superannuable appointments, salaries within Schedule "D" of the Agreement:—

(a) One ENGINEERING DRAUGHTSMAN (Mechanical) Grade 6. (Vacancy No. 816MD.)

(b) One SENIOR DRAUGHTSMAN (Structural Steelwork) Grade 4. (Vacancy No. 817MD.)

(c) One SENIOR DRAUGHTSMAN (Architectural) Grade 4. (Vacancy No. 818MD.)

(d) One SENIOR DRAUGHTSMAN (Civil) Grade 5. (Vacancy No. 819MD.)

(e) One ENGINEERING DRAUGHTSMAN (Civil) Grade 6. (Vacancy No. 820MD.)

Applicants for these positions should have received a sound technical training and practical experience, in particular for:—

(a) in the layout of plant for new generating stations including turbines, boiler or similar plant;

(b) in the design of heavy steel structures, preferably with works training in steel fabrication;

(c) in the layout and design of main and auxiliary buildings associated with power stations;

(d) and (e) general civil engineering, preferably associated with power stations.

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Apply, quoting the vacancy number, on form AE6, available from the Establishments Officer, 53 Wake Green Road, Moseley, Birmingham, 13, by December 4, 1954. [8539

APPOINTMENTS—contd.

COUNTY BOROUGH OF DONCASTER EDUCATION COMMITTEE.

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APPLICATIONS are invited for the post of teacher of building subjects. Candidates should be well qualified in Brickwork and General Building subjects and have had suitable industrial experience.

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Application forms may be obtained from the undersigned and should be completed and returned as soon as possible.

V. H. HOSKIN,
Chief Education Officer.

Education Offices,
Whitaker Street,
DONCASTER. [8542

MINISTRY OF WORKS.

LEADING ARCHITECTURAL ASSISTANTS required for drawing offices in the Chief Architect's Division in London, Edinburgh and various provincial offices.

Candidates must have had at least three years' architectural training, good experience in an architect's office, and be of Intermediate R.I.B.A. standard. London salary £710 to £834 per annum. Rates elsewhere slightly less. Starting pay according to experience. Prospects of promotion and establishment.

State age, full details of training and experience and office desired, to E. Bedford, Esq., C.V.O., A.R.I.B.A., Chief Architect, Ministry of Works, W.G.10/C.A.10(G), Abell House, John Islip Street, London, S.W.1. [8525

COUNTY BOROUGH OF EAST HAM.

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London Weighting is paid in addition. Salary in excess of the minimum may be paid according to qualifications and experience.

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Candidates, who should be not less than 25 years of age, should be A.R.I.B.A. or F.R.I.B.A.

Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience and quoting reference number BCD 112/25/03. [8560

MINISTRY OF WORKS.

ARCHITECTURAL ASSISTANTS required for drawing offices in London, Edinburgh and various provincial offices, including Aldermaston, Berks; Harwell, Berks; Nancekuke, Cornwall; Ranskill, Notts; and Bishopton, Renfrew.

Candidates must have had at least three years' architectural training, some experience in an architect's office, and be of Intermediate R.I.B.A. standard.

London salary £442—£695 per annum. Rates elsewhere slightly less. Starting pay according to age and experience. Prospects of promotion and establishment.

State age, full details of training and experience and office desired, to E. Bedford, Esq., C.V.O., A.R.I.B.A., Chief Architect, Ministry of Works, W.G.10/C.A.10(G), Abell House, John Islip Street, London, S.W.1. [8537

APPOINTMENTS—contd.

THURROCK URBAN DISTRICT COUNCIL.

ARCHITECTURAL ASSISTANT.

APPLICATIONS are invited for the appointment of an Architectural Assistant at a salary in accordance with Grade II of the A.P.T. Division of the National Scale of Salaries (applicable from 1st January, 1955), i.e., £560 rising to £640 per annum.

General architectural experience is necessary and applicants must be capable of preparing detailed plans and specifications and supervising housing schemes. Candidates should have passed the Intermediate Examination of the Royal Institute of British Architects.

Housing accommodation, if necessary, may be provided for the successful applicant if he lives more than 20 miles from the Thurrock Urban District.

The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful applicant will be required to pass a medical examination.

Applications endorsed "Architectural Assistant II" stating age, qualifications and experience with copies of three recent testimonials should reach the undersigned not later than Monday the 6th December, 1954.

Canvassing will disqualify and applicants must disclose in writing any relationship to any member or senior officer of the Council.

A. E. POOLE,
Clerk of the Council.

Council Offices,
Whitehall Lane,
Grays, Essex. [8555

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SENIOR and Junior Assistant Architects required, A.R.I.B.A. and Intermediate standards respectively, for general practice.—Apply Webb & Gray, Chartered Architects, Tixall House, St. James's Road, Dudley, giving usual details of experience, etc. [8559

WANTED, Architect interested in site organisation on a large building contract. Must have full knowledge of and ability to handle sub-contractors. Applicant need not be qualified. An interesting post for an active personality.—Apply Box 0221. [8545

ARCHITECT or surveyor required by Granada Theatres, Ltd., to supervise building maintenance work and alterations; ability to prepare drawings and/or specifications essential.—Write giving age, education, qualifications, experience and salary required to Personnel Manager, 36, Golden Square, London, W.1. [8554

METROPOLITAN Borough of Hampstead require Architectural Assistant (temporary). Salary within the interim scale £600/£640 plus London weighting. Appropriate qualifications required. No housing provided. Applications, suitably endorsed, giving three referees, to the Town Clerk, Town Hall, Haverstock Hill, N.W.3, by December 4, 1954. [8541

VACANCY arises for architectural draughtsman for work at modern chemical manufacturing company, Birmingham area. Preference will be given to a junior who is studying for architectural qualifications. Excellent opportunity for young man in permanent and progressive appointment. Staff pension scheme in operation. Five-day week. Please reply with full details.—Box 0184. [8538

ALBRIGHT & WILSON, Ltd. require an Architectural Draughtsman with knowledge of modern building construction for the preparation of working and detail drawings in connection with industrial buildings. Applicants should be capable of making surveys and setting out. Experience in the preparation of B. & C.E. bills of quantities would be an advantage.—Apply in writing to the Personnel Department. [8523

ARCHITECTURAL APPOINTMENTS VACANT—contd.

B.B.C. requires qualified architect for work in Building Department, mainly in connection with the practical application of acoustic principles in the design of studios. The successful candidate will be required to work in close co-operation with Engineering Research Department (Acoustics Section). Preference given to candidate with sound knowledge of physics, particularly acoustics. Knowledge and appreciation of music essential. Salary £1,085 p.a. (higher if qualifications and experience exceptional) rising by 5 annual increments to £1,465 p.a. Requests for application form to Engineering Establishment Officer, Broadcasting House, London, W.1, within 7 days, quoting reference EX.15/A.B.N. [8536

ARCHITECTURAL Draughtsman. Applications are invited by a Leeds Company with a substantial business in prefabricated housing and schools for home and overseas markets. Accurate and neat draughtsmanship will be required of applicants, who should be preferably of Intermediate standard. The work is interesting, varied, and demands imagination, initiative and a contemporary approach to building problems. A man with these qualities, who is prepared to devote some effort to learning the technique of prefabrication, will find ample and progressive scope for their deployment. A pension scheme is in operation.—Reply, stating age, experience and present salary to Messrs. Cawood Wharton & Co., Ltd., 1a, Cavendish Road, Leeds, 1. [8497

SITUATIONS VACANT

WANTED, several go-ahead young assistants with office experience, to work on schools, flats, etc.; commencing salaries £500 to £600.—Write Clifford Sulpin & Partner, 3, Southampton Place, W.C.1. [8552

YOUNG man, 20-25 years, required as draughtsman for building and shopfitting, experience in model making an advantage.—Apply by letter in first instance stating experience and salary required, to Horne Bros., Ltd., Estate Department, Newman St., London, W.1. [8551

ARCHITECTURAL representative for the Midlands required by leading North Country firm selling to the decorative and allied trades, the successful candidate will have good personality and educational background, a knowledge of the architectural profession and selling experience an advantage.—Replies in confidence including remuneration required, to Box 0263. [8553

EXPERIENCED person with thorough knowledge exhibition work urgently required by British Industries Fair, Ltd. Duties will include preparation of working drawings, supervision of contract work, and liaison with Company's Consulting Architect. Salary according to qualifications and experience.—Applications should be in writing and addressed to the General Manager, British Industries Fair, Ltd., Ingersoll House, 9, Kingsway, London, W.C.2. (Covent Garden 1461.) [8548

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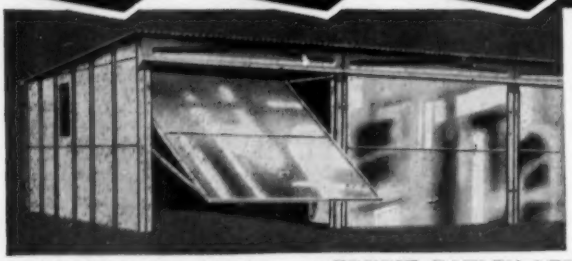

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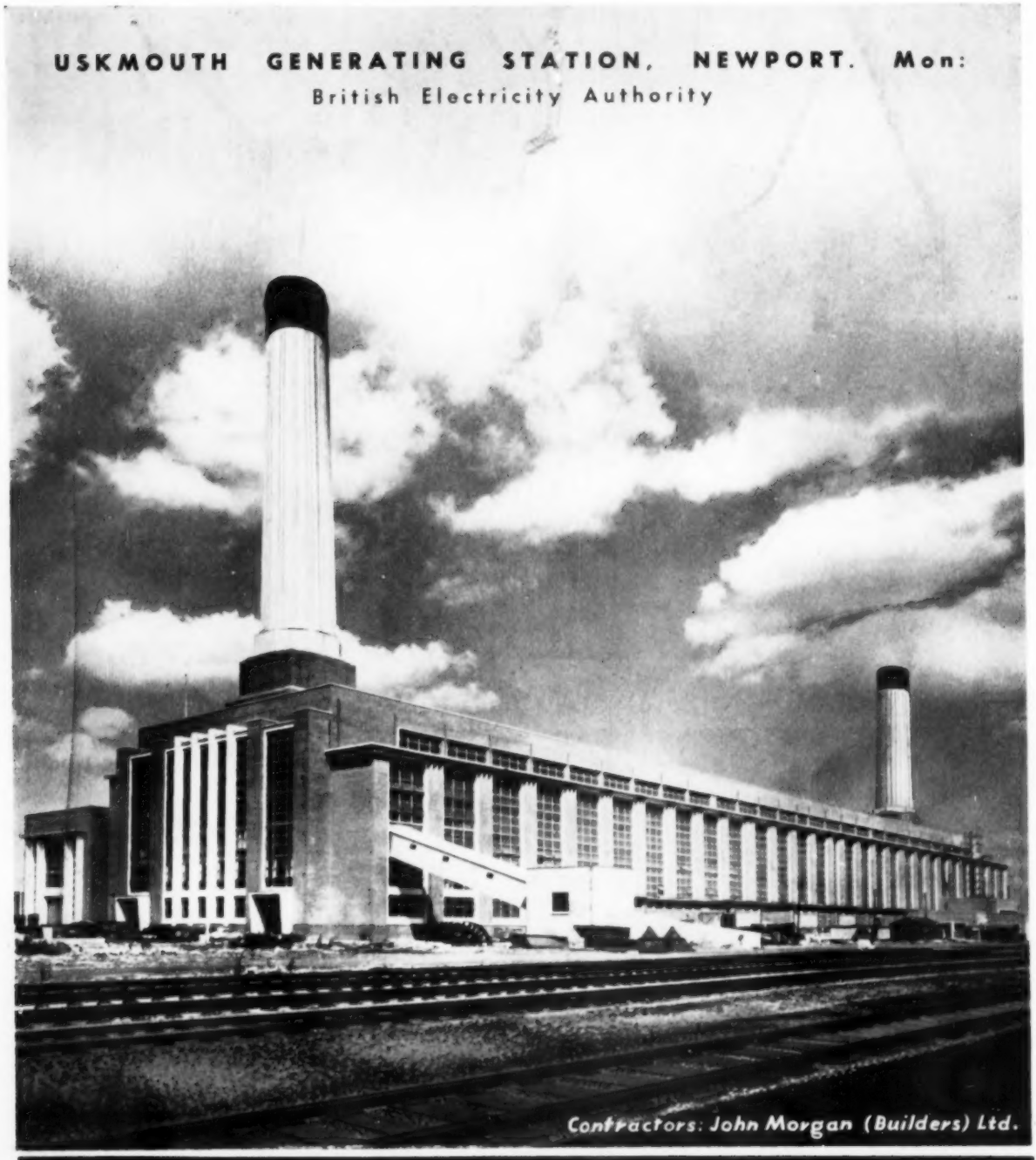

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